Journal of the Royal Institute of British Architects

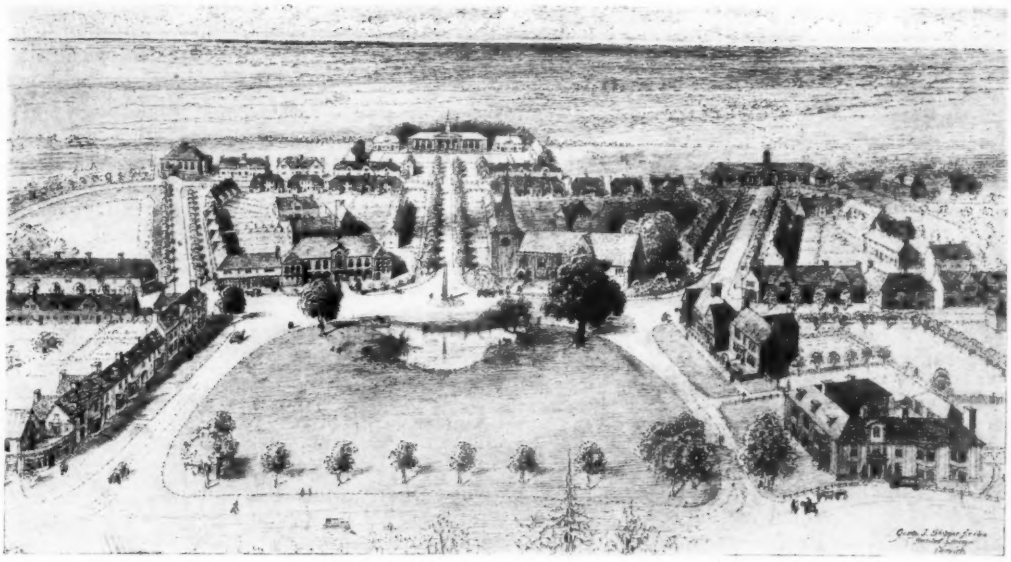
THIRD SERIES

VOL. XXXIV. No. 13. 7 MAY 1927

Contents for 7 May 1927

SIENA.
PENCIL SKETCH BY W. CURTIS GREEN, A.R.A.

VOL. XXXIV. No. 13 7 MAY 1927



CHISLET COLLIERY VILLAGE, KENT

The Development of East Kent

BY PROFESSOR PATRICK ABERCROMBIE [*F.*].

[*A Paper read before the Royal Institute of British Architects, on Monday, 11 April 1927.*]

INTRODUCTION.

EAST KENT presents perhaps two unusual and interesting features among the numerous developments that are taking place at the present moment. In the first place a rural area of great beauty in the Home Counties is suddenly changing its character to fit it for a function that has been so far reserved for places in the North or the Midlands ; secondly, owing to the suddenness of this change it is possible to observe simultaneously the three-fold stages of development :

Regional Survey and Planning,
Town Planning under the Act,
and Town Building.

Sharpness of contrast is thus emphasised by rapidity of change. It was probably due to these special circumstances that the Archbishop of Canterbury summoned a conference, the outcome of which was the appointment of a special Advisory Committee on which could be represented the General Public, the Ministry of Health, the Local Authorities, Industrialists, Labour and the Local Residents. The formative work of this Committee was carried out under the late Lord Milner, who brought to bear his vast and varied experience on a problem of concentrated local importance. Since his death, Mr. H. E. H. Rice has succeeded him as Chairman and the Hon. Secretaryship has been in the hands of Mr. G. L. Pepler.

The following notes on East Kent may be conveniently divided into four parts :

1. The Regional Survey.
2. Regional Proposals.
3. Town Planning.
4. Town and Village Building.

The actual progress of the colliery undertakings,

upon which, of course, the whole of the movement depends, is somewhat outside the present scope. It is their reaction upon the country-side with which we are chiefly concerned.

I.

Survey.

The report of a preliminary survey intended to explore the ground from every point of view has already been published by the Regional Committee representing the 17 Local Authorities concerned. It is not, therefore, necessary to deal with this at any great length. The survey indicates the dual aspect of the problem, the preservation of the existing character of the region on the one hand and the features which will govern the new developments on the other. The whole object of invoking the powers and methods of regional and town planning is to secure a preservation, so far as is possible, of existing amentities, together with a sound policy of new growth on social, economic and artistic lines. The aspects of preservation may be summarised as follows.

In the first place, there is what might be termed the present industry of East Kent, in the form of a series of seaside towns which fringe the coast from Whitstable to Folkestone. The rateable value of this existing asset is greater than anything that is likely to occur from industrial growth. It would therefore be a national extravagance to encourage new developments which destroy existing assets. Not only are the immediate settings and suburban surroundings of these towns affected, but the whole landscape background, which is used increasingly more and more by summer visitors as a contrast to unmitigated sea-coast delights. The coastal towns, in a word, are vitally interested in the amenities of the country-side behind them. There are next the historical features, including the towns of Canterbury, Sandwich and Dover, and a series of typical old villages, of which perhaps Wickhambreux—with its famous post office—and Barfreston—with its unrivalled minute church—might be singled out for special mention, both architecturally and by reason of their setting. Sturry Court may be taken as an example of the richness of content of this area, both for intrinsically valuable old remains and for more recent and equally precious associations. This old manor house and garden, now renamed Milner Court, is safe owing to the action of Lady Milner in presenting it to King's School, Canterbury. In addition, of course, there are the purely archæological remains, rising to monumental grandeur, at Richborough, Reculver and Dover.

The landscape itself possesses a very definite charm; except in the neighbourhood of Folkestone, it is not so much the bare chalk down country of Sussex or Woldingham as a rolling cultivated terrain with unfenced roads, enhancing its effect of scale by richly-wooded settlements, whether villages, farm-houses or noble parks, in the sheltered hollows. In contrast to this typical landscape, there is the wide area of quasi-marshland, following the Valley of the Stour and on the course of the now obliterated Wantsum, cutting off the Isle of Thanet. These low-lying lands, which extend as far south as Deal, cause some of the most difficult problems as to drainage and the placing of houses which the region propounds.

Geological.—Of economic factors, the geological is, of course, supreme. In many ways, the section from Lympne to the North Foreland is the most interesting diagram that has been prepared, and one must resist the temptation to dwell too long upon it. There is something truly dramatic about the look of it: it will be seen that an unbroken coverlet of virgin white chalk veils the dusky, dynamic, and calorific Goddess who causes us so much trouble, but whose charms have so irresistible a fascination for mankind. One can dimly imagine the stupendous forces that bent the carboniferous limestone to form the hollow bed in which she lies: then was the surface sheared off clean, thus cutting this coal-field from that of South Wales and Northern France. Stranger still, between the chalk and these older rocks is thrust a sharp wedge of the Jurassic group, most familiar to dwellers in the south-west as the Oolites. The chalk, saturated with water, is, you see, sealed by a bed of Gault clay: but the green sand under and the Oolites obtain water from further afield—perhaps France—*hic illæ lachrymæ* of the Coal Borer.

But what an exciting underground did that peaceful uniform chalk country of East Kent rest upon, pursuing for two thousand years an existence perturbed by nothing more serious than a military conquest or so!

The effect of these different strata upon boring for coal is perhaps an industrial concern, but the order of development of the coal-field is an ex-

tremely important matter for the purpose of producing a practical and workable scheme. Industrialists are naturally reticent of publishing broadcast their plans, and it is only by dint of studying these data that some sort of forecast can be made of the lines of development likely to be adopted. Simple facts, like the depth of the seams below the surface, must be qualified by many other factors, such as the presence of water-bearing strata and other impediments to sinking. Generally speaking, it would seem probable that the northern area will be developed sooner than the southern, although towards the extreme north of the coal-field there is a certainty of subsidence affecting the low-lying land.

Commercial.—It might be said of the early history of the commercial exploitation of Kent coal that its vicissitudes form a romantic chapter in carboniferous finance. At the moment we are chiefly interested in three groups which are working, or hoping to work, four pits. On the northern extremity of the field is Chislet, belonging to a company which has some connection with the Powell Duffryn Company of South Wales; in the middle, Snowdown and Betteshanger, belonging to Messrs. Pearson and Dorman Long, Ltd.; and a little further south, Tilmanstone, with which is associated the name of Mr. Tilden Smith. The richest thicknesses of coal, which appear in the southern area, for various reasons are at present lying dormant. The discovery of iron ore, more recent than the coal, in strata lying above the coal measures, will doubtless eventually add another factor of complexity to the regional problem; but for the moment it would appear that coal is a more insistent commodity than steel, at any rate in East Kent. Agriculture, after seaside catering, is the next important existing industry of East Kent; and the varied surface-geological formation, with its change from chalk to the alluvium of the Stour Valley and the intervening bands of fertile Thanet beds, produces great variety of cultivation. It is probable that the change will benefit local agriculture and possibly modify the crops. It is well known that miners have a great liking for fresh fruit, though whether their presence will affect the hop industry is more debatable.

Communications.—The existing communications of East Kent have naturally followed the coastal development, the two principal streams of traffic being the London to Thanet by way of Canterbury and the London to Folkestone and Dover. There is also the famous Roman road from Canterbury to Dover past the Barham Downs and a further well-marked stream of traffic from Thanet through Sandwich to Deal and Dover. This leaves the central area of the region, comparatively speaking, little used by traffic, but possessing at least two excellent roads, also sometimes called Roman—namely, from Canterbury to Sandwich and from Sandwich to Dover through Eastry. The road system, of course, takes little cognisance of the proposed industrial change. Perhaps the most remarkable feature of the roads of East Kent consists in the number of local ways, unenclosed by hedges, over the undulating chalk country. There are too many rather than too few of these local roads, which appear to perpetuate tracks across the open Downs; and the use of this network by charabanc traffic in the summer is a real problem from the point of view of up-keep. There appears to be no need for the "What to See" signs in East Kent. The villages are already thoroughly known, and the general desire is to limit rather than encourage the further use of country roads.

II.

Regional Plan.

This is still in course of preparation; but certain broad features have been already agreed upon, and development is proceeding in accordance with them.

Roads.—The main roads include, firstly, a new coastal road giving direct access from London to Thanet and passing at the back of Whitstable and Herne Bay. Secondly, a road forming a sort of half circle from Canterbury to Dover and picking up ultimately five or six coal pits as it passes. Thirdly, a north to south coast road starting from the Thanet coast road near St. Nicholas and ending up a little to the west of Folkestone. Fourthly, a more local road which will be required to open up the low-lying land of the Southern Stour Valley for three or four pits. Fifthly, there are a series of important by-passes, both internal and external, for relieving the City of Canterbury, which from Roman times has formed a nodal point. The most important of these by-passes from the point of view of length is one that will eliminate the level crossing and congestion at Sturry.

Zoning.—Though a final zoning plan has not

yet been produced, an important industrial zone is to be delimited of which each coal pit will form the centre of a circle of a half-mile radius. Within this circle no houses except a limited number required for pit needs are to be allowed. There will, of course, be other industrial areas of a more normal character in addition to these. The proposed new residential areas, or, more simply put, the sites for new towns, have also been to a large extent determined. This, of course, from the point of view of social and landscape treatment, is the most important piece of work following on the industrial coal development. The idea is to group several pits together, wherever possible, and to concentrate this new residential growth into a few large new towns rather than to scatter it in single houses or individual housing schemes. It is estimated that there will be eight of these new towns, and possible sites were indicated on the tentative zoning plan. Later studies suggest, owing to drainage difficulties, fewer sites, but, provided that the principle of grouping and the selection of areas suitable to the landscape as well as for practical purposes is adhered to, the policy agreed to will be carried out. In addition to the new towns there will, of course, be a large increase in the existing ones. It is extremely hazardous to prophesy what the ultimate size of the new towns will be, but the original estimate indicated one of the size of Ramsgate, four of the size of Canterbury, three about the size of Deal. In arriving at these comparative sizes, however, account was taken of the large amount of ancillary population that would probably follow in the wake of coal mining and iron working; decentralisation of many industries from London, in order to acquire cheap land, fuel and accessibility to continental markets, will probably occur. In a word, the coal getting will not be an ephemeral episode, requiring a few miners' camp towns, but a true colonisation involving radical change.

Industrial Transport.—In connection with this general industrialism of East Kent, or at any rate of that central part of it in which the majority of the coal mines will lie, industrial transport will become of vital importance. Quite frankly we do not yet see our way clearly in this matter. There is, of course, in existence the Southern Railway and the East Kent Light Railway, which latter has both a considerable length of existing lines and rights of extension in various directions. In addition to these there have been suggestions made quite recently for aerial rope railways, and there is also a quite feasible project of a reopening of the ancient river Wantsum, by means of a canal to connect the river Stour with the Thames Estuary somewhere near Birchington. It would be manifestly the negation of regional planning for these systems of industrial and indeed human transport to be worked out independently or even in opposition. Not only are the systems of transport uncertain, but the common objective is by no means determined; in other words, is the coal to be taken direct to London or is the continental output most probable; or can a large amount of it be consumed by the production of local power and for local industries? Is there to be a single great port for the coal-field or will Dover deal with continental exports and Birchington with the London traffic; and what will become of the War Port, Richborough, which many people consider still possesses great possibilities? These uncertainties by no means prevent a regional plan, but they certainly give warning that it must possess a considerable degree of flexibility.

Further studies in amenity.—The Regional Plan must also attempt to safeguard amenities by establishing open zones, no less than by concentrating industrial and other areas. Hitherto regional plans have not attempted much positively in this direction beyond suggesting the acquisition of certain comparatively small areas for public open spaces; but it is hoped to put forward in this instance a definite scheme of zoning for agriculture, combined with open spaces for the preservation of scenic beauty. The following is a rough tentative draft of the type of sub-division of this open country which may be attempted:

(*a*) The low lying agricultural lands subject to the Commissioners of Sewers (established in their existing powers in the reign of Henry VIII). This land in itself does not possess remarkable beauty, but it is at present unattractive to house building, and if subsidence occurs will be still less so. It is, therefore, quite unsuitable for industrial housing, and should be kept as free as possible from new buildings.

(*b*) The rich agricultural lands where values are already so high that it is not likely much residential development will take place. Where more building is required in these areas, it should be attached as far as possible to existing villages.

EAST KENT REGIONAL SCHEME: A TENTATIVE ZONING PLAN

The black-line circles represent the industrial areas focussed on each pit: the white-outlined patches represent the possible sites and areas of new towns

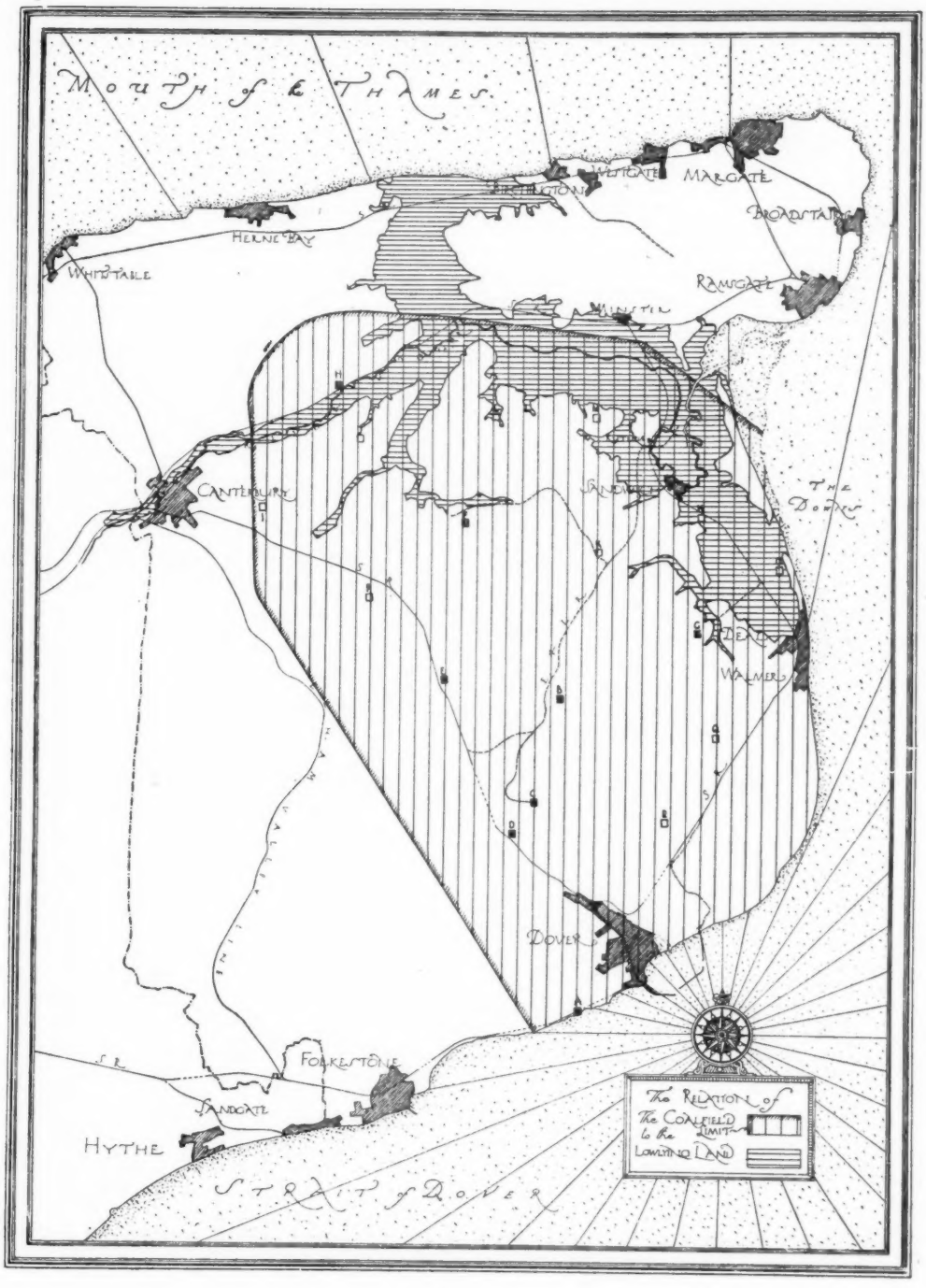
(*c*) The normal agricultural land which, as already mentioned, owing to the undulating nature of the chalk formation and the presence of fine woodlands, gives the characteristic aspect to the landscape of East Kent. Every effort should be made to preserve this beauty, which is of so delicate a kind that a few discordant buildings can damage wide stretches of it. All scattered building should be prevented and a limitation, enabling it to be described as an agricultural district [as under the Wheatley Act] of one house per ten acres, laid down. It must be not forgotten, of course, that this elimination of building on the agricultural zones and this concentration on definite sites is as important from an economic point of view as it is artistically.

(*d*) Next, there are certain landscape features of a more marked character which, while still being used economically—*e.g.*, the Chestnut Woodlands—should be preserved under the heading "General Amenity." Perhaps under this category might be mentioned some of the remoter valleys in the western portion of the region which, as the population increases, will become of greater value to the community.

(*e*) There are, finally, those specially beautiful or remarkable features which should be acquired outright as Public Open Spaces and either vested in the Local Authorities or the National Trust, and thus kept in a state of strict preservation. Firstly, there is the coast line: fortunately a considerable part is already secured. There are, also, some patches of wild country, particularly in the neighbourhood of Dover. Finally, there are certain of the private parks which should be acquired when their owners wish to sell. These would form part of a definite park system, under which heading should also be studied the preservation of existing footpaths.

The above is a rough outline, in ascending degrees of strictness of control, of five types of open zone. It is interesting to remark that the C.P.R.E. is at present investigating the best methods of carrying out some such work of preservation zoning in order to supplement the existing powers under the Town Planning Act by other, and in some cases voluntary, means. The broad principle to be established is that by concentrating building development in certain places at which all facilities are provided great economies will be effected, and it will be thus possible to leave the open areas in their agricultural state. The amount of building to be done is no less than under a scattered or ribbon development method, but it is grouped at certain spots. When it is remembered that practically the whole of the water supply for East Kent is drawn from the upper chalk it is obvious that to allow individual houses with separate cesspools to be built at an average density of, say, four houses per acre over the whole of the central area of the region would practically foul the entire supply. Alternatively to attempt to sewer these scattered houses would be absolutely prohibitive; therefore the grouping together of houses and housing schemes into a limited number of towns in which proper purification works can be installed is the only economic solution. It happens, as already remarked, that this also jumps with requirements for the preservation of the amenities of East Kent.

Architectural Control.—In addition to determining where the buildings should go, it is also essential to obtain some control of their design and materials. There is no need to point out that control of design cannot produce great or good architecture, but it can prevent outrage. And it is sad to say that outrageous design has been inflicted upon East Kent of recent years quite apart from industrial change; at least one local authority has been content itself to put up unworthy, depressing houses in close proximity to a town which is famous as an example of mediæval beauty. It is remarkable that when this same town produced a historic pageant, it sought expert advice as to incident and costume; its housing scheme was not thought worth a qualified architect. The pageant has faded—the houses remain. When authorities err can speculating builders be expected to be void of offence? In contrast, however, other authorities have realised their æsthetic duties, and I would specially mention the Southern Railway, which has recently erected some fine stations—notably those at Ramsgate and Margate; the company has evidently realised that the railway terminal should and could be one of the principal monumental buildings in the town. We may look forward to equally worthy buildings for the churches, for which a joint committee of all denominations has been formed to arrange for sites in new areas, for the schools which the Kent Education Committee will put up, and for the post offices, banks, etc. The original colliery



DIAGRAM

SUPER-IMPOSING THE COALFIELDS ON THE LOW-LYING LANDS

The letters indicate positions of pits: B—Tilmanstone; E—Snowdown; G—Betteshanger; H—Chislet

companies in the speculative days found the public were more impressed by buildings above ground than by subterranean sinkings: they accordingly punctuated East Kent with chimney shafts: one of them has just been felled and others will follow, seeing that the electric driving of the pits can dispense with these monuments of financial instability. The new collieries have nothing more conspicuous than their winding gear and some low buildings—engine houses, etc., with simple tiled roofs.

But there is the control of individual building design which must be taken in hand; this can now be effected by the inclusion of the recently drafted Model Clause in Town Planning Schemes. The clause, as is well known, sets up an Advisory Committee of three, to which all doubtful buildings may be submitted by the local authority and whose findings the authority is bound to carry out. It would be possible for the same Advisory Committee to act for the whole region; or perhaps it might be divided into three sub-regions for the purpose, one for Thanet, one centering upon Canterbury and one for Dover and Folkestone and their surroundings.

It is also worth considering whether, in addition to this statutory Advisory body, it would not be wise to set up Consultative Panels of Architects to whom intending builders could submit their drawings in an early stage and who could give advice as to what was likely to satisfy the Advisory Committees. This would tend to soften the severity of a new type of control (which in time should be submitted to as cheerfully as we now submit to by-law control for construction), and would also avoid the delay to a builder of having plans rejected without his having any idea that this was likely to occur. For we must remember that outrageous design is perpetrated more through ignorance than malice.

But it must never be conceded for a moment that the imposition of this architectural control will put up the cost of houses: good design is not more expensive than bad design, and it is frequently much cheaper.

Again, the C.P.R.E. is taking this matter up nationally, and one aspect of first importance is the placing upon the market of well-designed standardised details; indeed, I believe this to be a necessary concomitant of statutory control. But this is a controversial topic which affects other places besides East Kent.

Old Villages.—Not only is the landscape to be preserved from spoliation but those old villages that have been already mentioned. Even here one is not prepared to say that no new building or alteration of existing should be undertaken. Probably the Advisory Committee for the new and the safeguards imposed by Mr. Chamberlain for the altered houses (under the Rural Workers Housing Act) would prevent any serious alteration of an existing village picture. But a closer protection for these special spots might be devised by the local authority deciding that *all* buildings (not only the ones they are in doubt about) should be submitted to the Advisory Committee. The identity of these villages should also be maintained by an open zone surrounding them.

III.

Regional Realisation by Town Planning Schemes.

Several local authorities in the region are preparing or have reached the preliminary statement stage of a Town Planning Scheme. According to present powers the regional recommendations can only be implemented by this means. Theoretically it would be possible for a Joint Town Planning Committee of the 17 authorities to prepare a scheme (or a series of schemes) for the whole region. An alternative which has been adopted elsewhere (*e.g.*, Manchester and Deeside) is for several town planning camps to be formed; four such groupings might be suggested in this case: Thanet: Canterbury with Whitstable, Herne Bay and Blean and part of Bridge; Sandwich with Eastry and Deal and Walmer; Dover and Folkestone with Dover Rural and part of Elham.

These groupings would be practicable for the preparation and administration of schemes, but they would fail in securing a unified financial responsibility. The rural districts of Eastry and parts of Bridge and Dover Rural, to which the colliery development is practically confined, need the support of Thanet and the other coastal towns if they are to prepare schemes of real boldness.

It has been suggested that for East Kent (whatever may be necessary elsewhere) two concurrent schemes, a regional and local one, should be in force; the latter filling up the detail of the former. A special Act would be necessary. This, again, is

leading into speculative regions beyond our present scrutiny.

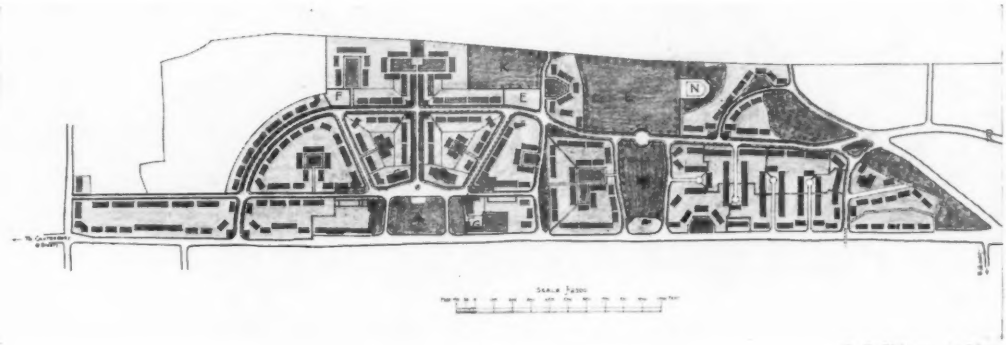
IV.

New Towns.

We now approach the more architectural aspect of this work. It was inevitable that the urgent requirements of coal undertakings should call for houses before a cut-and-dried scheme of regional disposition. Four sites have recently been, or are being, developed for the four coal-pits above-mentioned: namely at Chislet (begun before the Regional Scheme), Aylesham (for Snowdown Pit), Elvington (for Tilmanstone), Little Mongeham (for Betteshanger). Mr. Skipper is the architect for Chislet. With Mr. J. Archibald and Mr. C. F. T. Martindale I have been associated at Aylesham, with Mr. Archibald at Elvington, and with Mr. Martindale at Little Mongeham.

Chislet is designed for 1,000 houses; it lies along the Thanet Road and will have its centre planned with axis at right angles to the traffic route; a village green is to be recessed from the frontage and treated in country fashion with church, institute, rectory, shops and inn surrounding it. There is a boulevard starting at right angles to the road and curving round so as to run roughly parallel to it; along this will be placed chapel and school, and it will lead across the recreation ground and through a wood. Seventy houses are at present occupied and a further 300 are to be added.

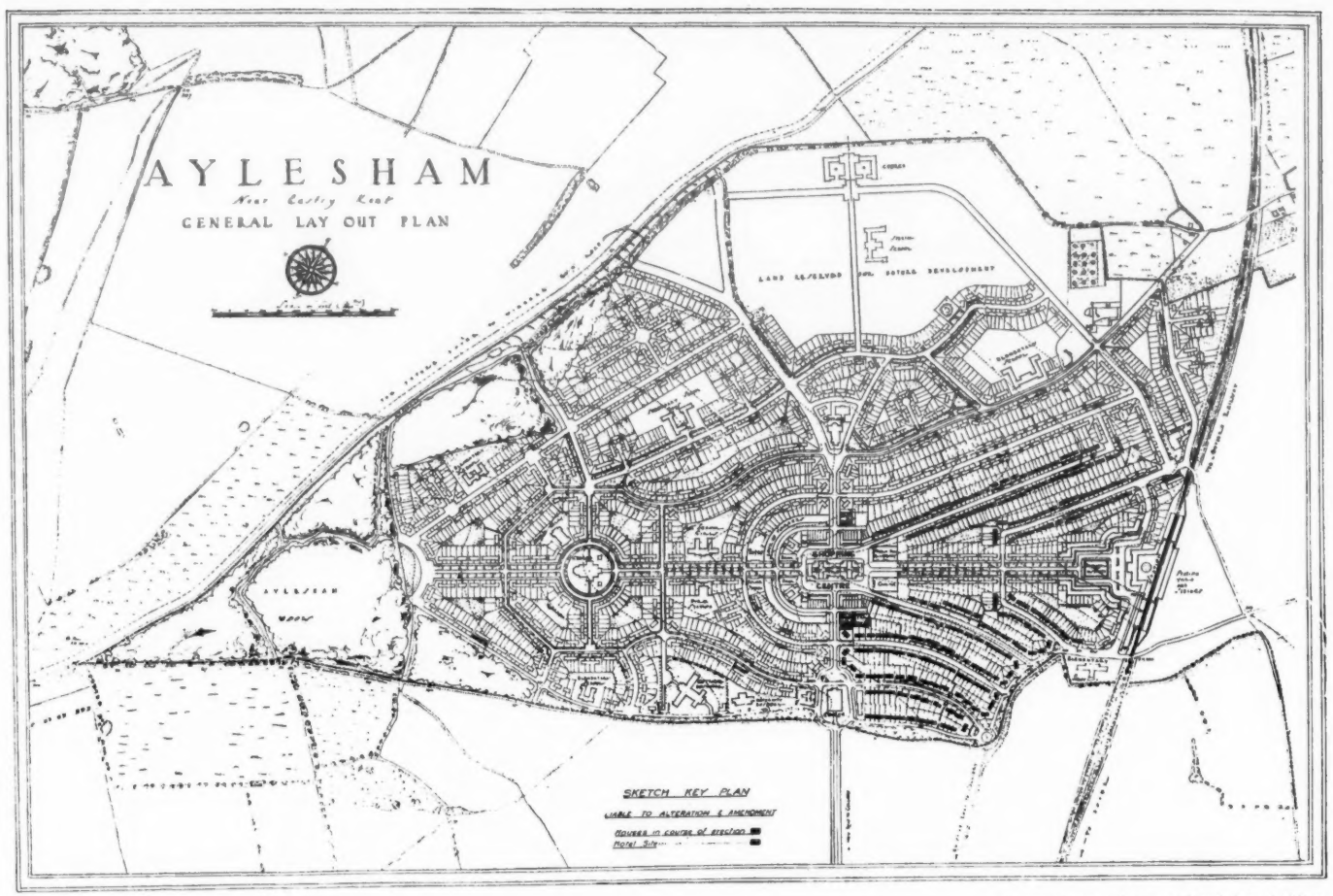
Aylesham.—Aylesham is the first of the new towns, designed for more than one pit and sited according to the tentative zoning plan. As originally shown it was placed on the N.E. side of the railway from Canterbury to Dover; 600 acres on either side of the line have been bought, but the building is to be restricted to the S.W. side. The site is a superb one—a simple bare fold in the chalk, gradually rising from the railway and closed at the top by a mighty beech wood: the length of this axis is $\frac{7}{8}$ mile and the rise just 100 feet. Upon this *tabula rasa*, hitherto scratched only by the farmer and the partridge, a town is being deeply etched; the plate at the moment might be described as being dipped in the mud bath for a trial proof. Anyone, indeed, visiting the site at the moment would, unless possessed of the prophetic eye, consider this an extreme act of rural desecration. But behind this churned up welter there is a method, and eventually, we hope, something will emerge. The plan has endeavoured to make use of the shape of the site for its very simple motif: a main broad avenue along the bottom of the fold starting from the railway, with a shopping square half-way up where the roads from the pits, north and south, cross the main axis; farther up



G. J. Skipper, Architect

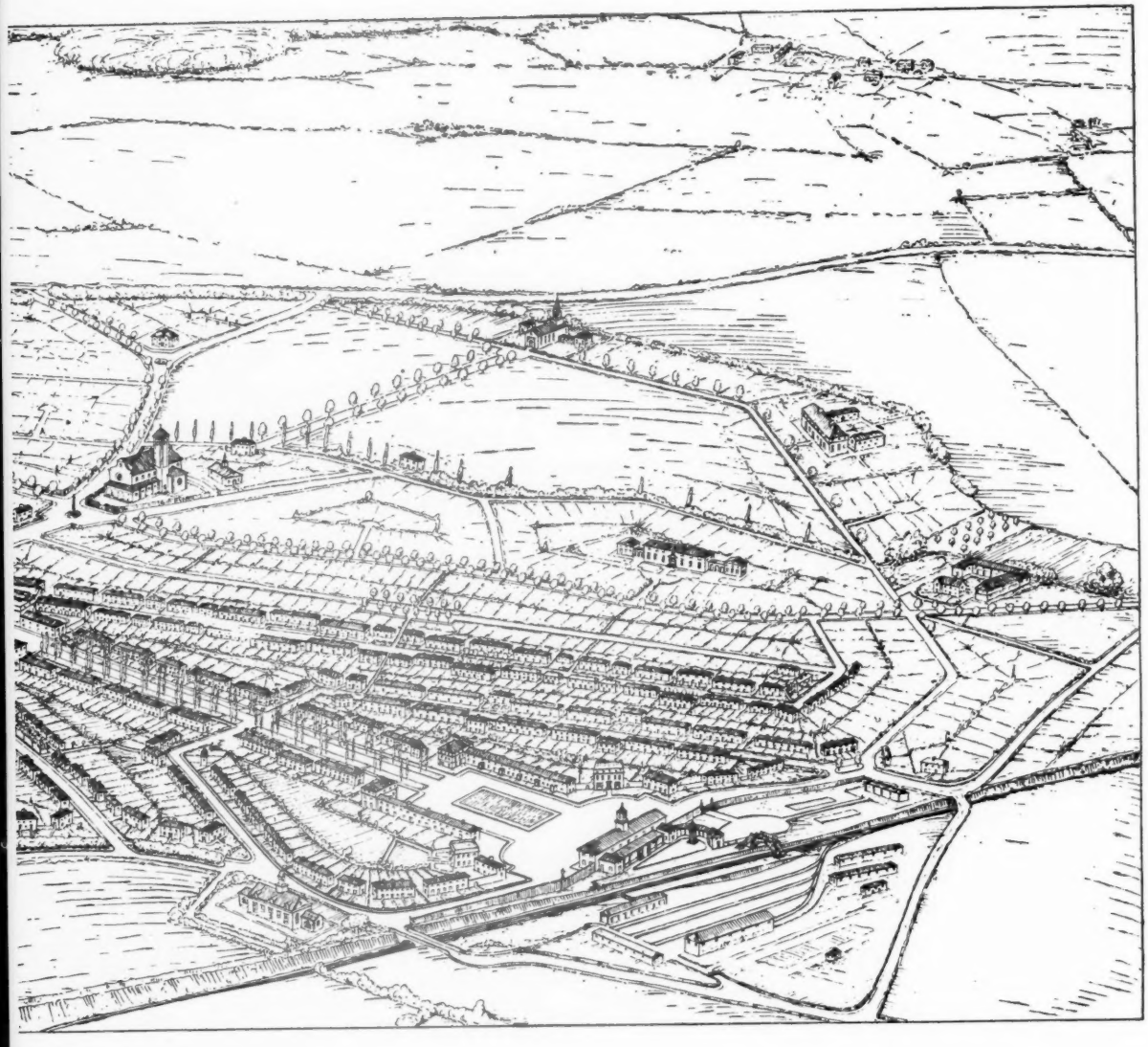
Chislet Colliery Village, Sturry, Kent

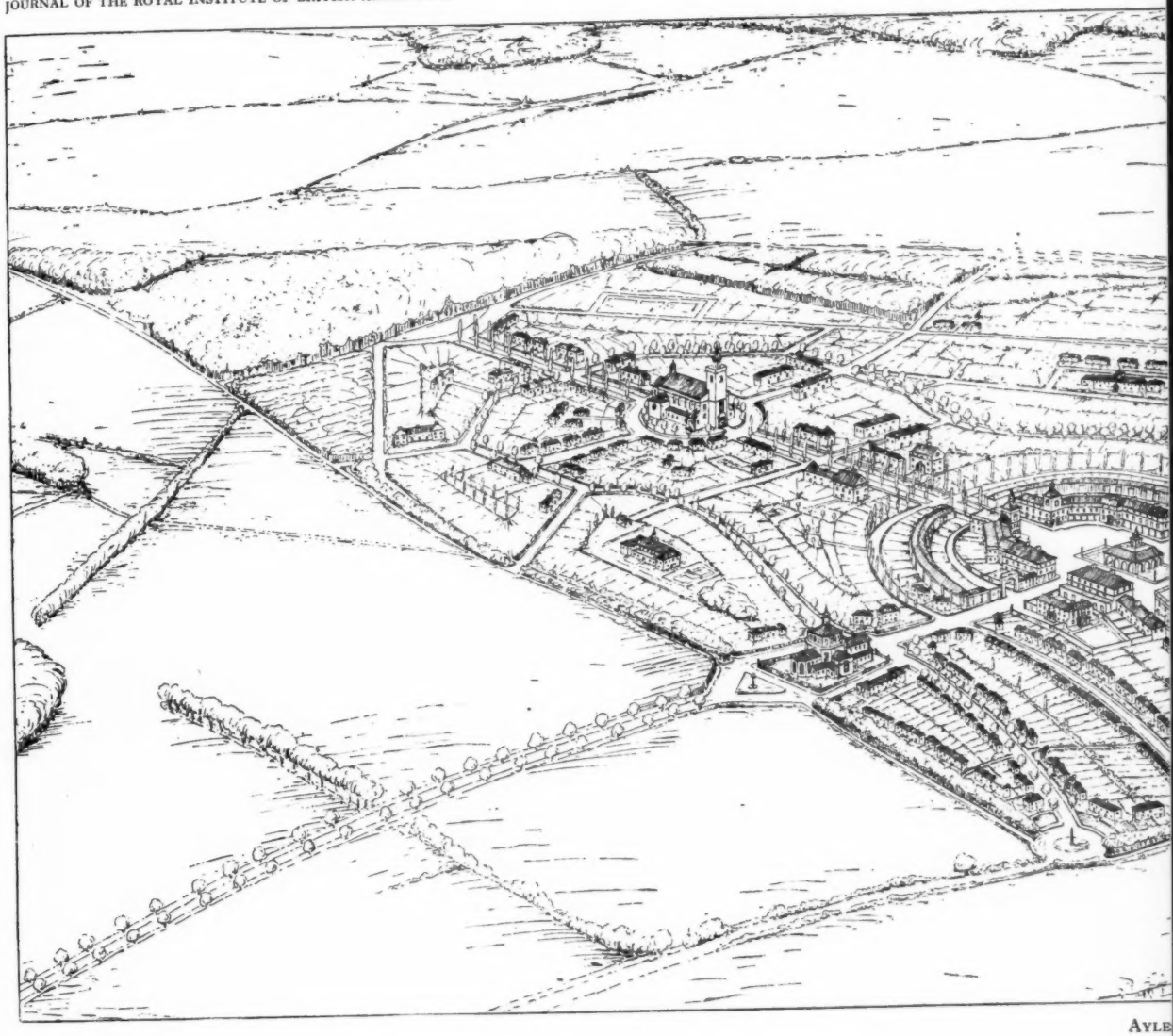
A.—The Green	F.—The Chapel	K.—Football
B.—The Church	G.—The Hostelry	L.—Cricket
C.—The Institute	H.—The Bank	M.—Tennis, Etc.
D.—The Library	I.—The Post Office	N.—Swimming Pool
E.—The School	J.—The Hospital	R.—Extension of Village



Abercrombie, Archibald, and Martindale, Architects

To face page 440





AYLE

the avenue is stopped by the site of a church, which will be outlined against the drop scene of the beech wood. Near the railway end, where the undulations are steepest, the roads follow the contours and converge on the market square ; above it and round the church the leveller ground permits a more geometric layout. Other sites for churches and schools have been reserved at focal points. The only other feature of note is a sort of encircling boulevard, whose shape has been largely determined by some existing trees on the north side. There are few cross roads, footpaths supplying their place in order to avoid waste of road frontage at the angles. The three sides of this site possess barriers : the railway at the base ; on the south side a narrow belt of woodland, locally known as a " shave," and, on the northern, a bank and woods. Along this latter side passes a road which will eventually become one of the new main routes (Thanet to Folkestone) : it is intended to refrain from building along it. The apex of the triangle is filled with the old beech wood, and on either hand, advancing somewhat down on either side, are newer larch plantations. The town is thus enclosed and sheltered from the fierce winds that beat about this jut of England : it will not be permitted to stray beyond its green walls. Some doubt has been expressed as to whether these woods can be preserved from becoming dumping grounds of household refuse, but one hopes that the litter problem will be more fundamentally dealt with in the new towns of East Kent.

The site as planned would take 2,000 houses, but it can be extended to hold a further 1,000 or an ultimate population of 15,000 people. This may be called a two-pit town* where a large amount of ancillary population is not expected. It may be noticed that, although the main features of the whole site are planned, the southern part is developed in more detail : this is the part that will be used for Snowdown Colliery ; the other pit to be located somewhere near the village of Adisham is not yet begun.

The Houses.—The planning of the houses presents no unusual or adventurous features ; there are neither all electric nor all gas houses, nor houses so closely grouped that they can use a common hot water system or communal kitchen. These innovations may come in time ; it was necessary in the first town to get ahead as quickly as possible on accustomed lines. The question of the miner's bathroom was, of course, carefully considered, but no uniform position decided upon. It is assumed that there will be pithead baths at every colliery—that the pit will consume its own dirt, whether it be coal dust or coal smoke. The smutch-faced collier, indeed, like a smoke-laden atmosphere and straggling houses, is symbolic of the paleotechnic age of industry.

Five types of plan are being used in the first 402 houses :

48	2 bedrooms with bathroom upstairs.
107	3 bedrooms and living room, and bathroom downstairs.
48	3 bedrooms and through-lit living room, bathroom off landing.
71	3 bedrooms, parlour and living room, bathroom upstairs.
128	3 bedrooms, parlour and through-lit living room, bathroom upstairs.

Of these houses half are being built in brick and half in steel, with external face of poured concrete, Messrs. Dorman Long & Co.'s special form of construction.

As regards external appearance, it was found impossible, on score of cost, to give the houses that faint Flemish flavour which is so characteristic of the local work of the late seventeenth and early eighteenth century in the district. A simpler treatment was inevitable, and that form of grouping has been adopted by which the house units are used on combination, variety being obtained, within defined limits, by an almost endless number of permutations. Indeed, the forced sobriety of design of these houses is all to the good in a town created suddenly like this one ; it is generally found that those streets, in which there was some fear of monotony, look best, and that where incidents have been contrived, apart from those inevitable to the plan, they have been regretted. At the same time, every effort has been made to give each street its own character, and to avoid the repetition of complex groupings ; to this end the colour-washed houses have been largely kept together with only an occasional intercalation of brick.

The necessary contrast to the unemphatic houses will be provided by the public buildings ;

* Since the Survey was published the Colliery Companies have decided that the pits can be worked by a smaller number of men.

it would be unfair to judge any town or village on its domestic effects alone. In the study for the market square a definitely urban treatment has been aimed at instead of a cottagy one. This is to be a small town, not an overgrown village. The present sketch is the fourth which has been made, and another is already in preparation. The amount of time an architect spends on his work is probably never realised by the public; but a community centre is worthy of all the pains that can be bestowed upon it. Two features of this square may be mentioned: an open air market occupying the central space and a service road carried round the back of the shops, faced on the other side by a continuous row of garages, warehouses, etc., the whole enclosed by a lofty blank wall.

It will be seen also that the Southern Railway has been offered scope for another fine railway station; it forms indeed, with the church and market place, the third point of interest on the central axis.

The town will be extremely well provided with open spaces; beyond the valley there are over 300 acres, where will be the playing fields; of these 10 to 12 acres and an institute will be set apart at once for the Snowdown miners. The remainder will be available for future recreational use, and will form an agricultural belt in the ownership of the town. Several small children's playgrounds are interspersed among the houses, and there will be the great wood at the head of the valley as a town park.

If the site of Aylesham was a *tabula rasa* as regards layout, it was an *arabia deserta* as regards building operations: materials, workmen, accommodation, nothing except a railway from which a siding had to be constructed. The difficulties in building a new town in such a place are immense, and some of the finer delicacies of architectural treatment and building technique must be sacrificed. Every service has to be provided, and the provision of each is usually accompanied by discussion, and even dispute, protracted in some cases over months. The drainage question alone has been extremely difficult; originally it was intended to use the large acreage across the line for a disposal plant, the purified effluent to be discharged upon the chalk. But Margate, which draws its water supply from wells and adits in the neighbourhood, has objected, and a trunk sewer is to be constructed for a distance of three miles to Wingham, where an effluent, after purification, will eventually find its way into the Stour. This bald statement can in no way adumbrate the almost interminable negotiation which it has involved between medical officers, drainage experts, geologists, water boards, landowners, local authorities and Ministry of Health—and may I add that the architects to the town are never allowed to be absent from any single conference. Time and thought which should be given to things of permanence are often expended upon satisfying opposing views.

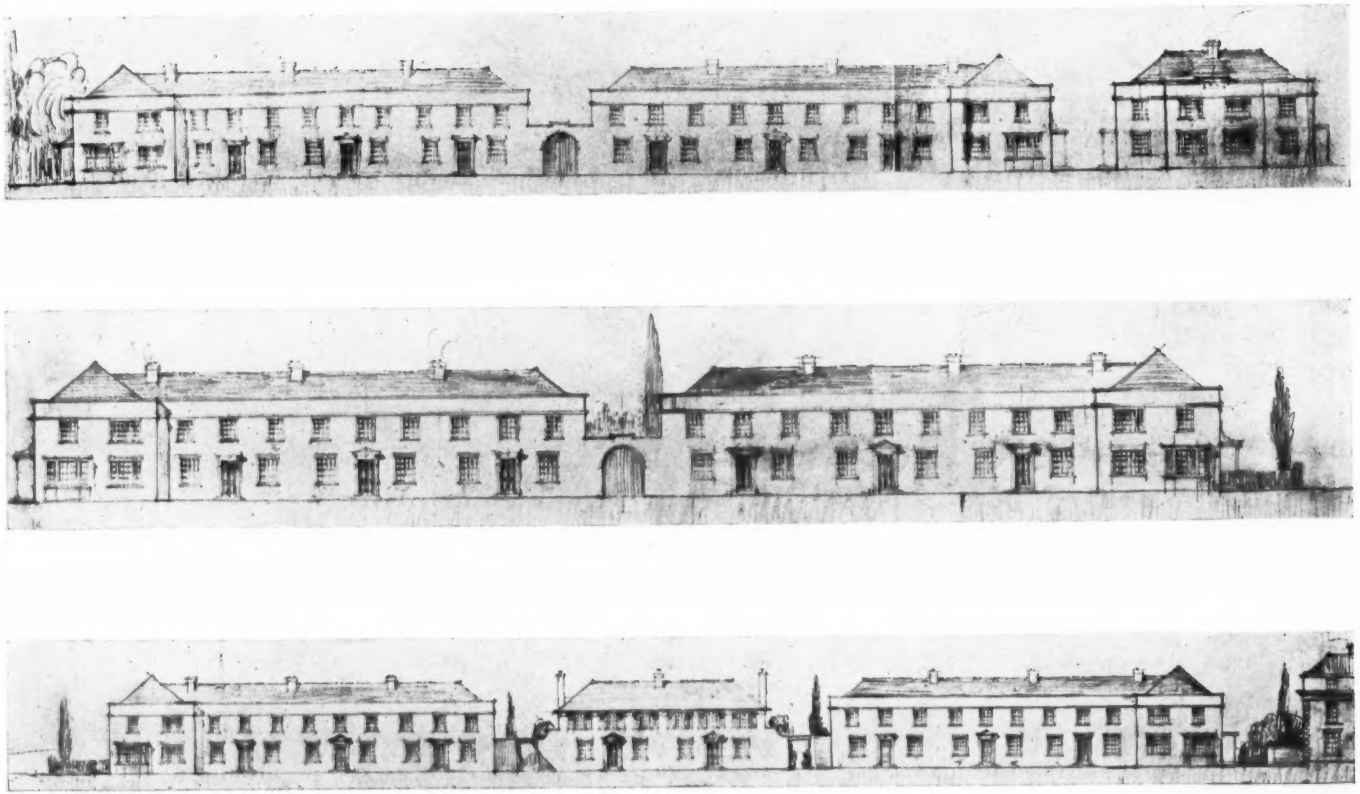
It may be of interest to give a list of drawings that have been required in connection with this first instalment of a new community.

In the first instance, of course, there are the normal drawings required by the client—in this case a public utility society, whose committee of eight and the local authority and company that they represent require to be furnished with general drawings; there are next the contractor for the houses and the contractors for roads and sewers. In addition, the following have been supplied with copies of plans:

The Ministry of Health.
The Ministry of Agriculture.
The Local Authority for (*a*) Subsidy.
(*b*) By-laws.
Separate copies.
The Public Works Loans Commissioners.
The Kent Education Committee.
The Southern Railway.
The East Kent Water Company.
The Gas Company.
The Electric Light Company.
Post Office Telegraphs—Telephones Dept.
The Estate Agent.

Not every one of these has received the complete set, which numbers 95 separate and distinct drawings; but most copies, mechanically reproduced, have required to be coloured or to have special information put upon them.

The finance of an undertaking of this sort it not without interest when it is remembered that the local authority, the R.D.C. of Eastry, can raise £300 by the imposition of a penny rate. The land was bought in the first instance by the Rural District and a Public Utility Society formed in which they and the colliery owners, Messrs. Pearson and Dorman Long, are equally interested.



AYLESHAM : STUDY FOR GROUPING OF HOUSES ON MAIN AVENUE
The strips read consecutively from left to right, from the top downwards

Subsequently the County Council has come in on a smaller basis. The difficulty of the Local Authority's limited borrowing powers has been overcome by the Colliery Company advancing the necessary capital, to be repaid when the rateable value of the district enables the District Council to do so. The houses, of course, are designed to be eligible for the housing subsidy, and the money is borrowed from the Public Works Loan Commissioners. The houses, when completed, will be leased to the Colliery Company by the P.U.S. for a period of forty years ; thus the rents and rates are guaranteed.

Abercrombie and Archibald, Archi ects.

These business arrangements may sound simple, but they are extremely interesting, and could not have been worked out if it had not been for the financial skill of the secretary to the P.U.S., who is also Clerk to the Eastry Rural District Council, Mr. F. A. Cloke, and the close co-operation between the Local Authority and the Colliery Company.

Elvington.—The original of this town was a group of houses built during the early days of the coal-field near the brow of a hill in the neighbourhood of the Tilmanstone Pit. In the Regional survey it was suggested that the new town should be placed somewhere near the station of Shepherdwell, on the Canterbury-Dover Line. It has been decided, however, to add to the earlier settlement, which is just outside the half mile industrial zone. At the present moment 100 houses are being built to fill in gaps in the earlier layout (which adopts an angular and awkward form); the old house, with its walled kitchen garden and noble trees, has been turned into a Miner's Hostel. The Tilmanstone Pit is at the moment in a state of suspended animation, and it is uncertain when further houses will be proceeded with.

The external materials of these hundred houses that are being built are interesting, from the fact that both bricks and tiles have been imported from abroad; they look extremely well, but it is somewhat melancholy that this should have been necessary in the home of the best bricks and tiles which this country can produce.

Pixhill, the fourth new town, has at length been located near the village of Little Mongeham; it will rest comfortably on the slope of a down, looking into a gentle combe in which lie the grey and russet buildings of Northbourne enclosed in orchards; to one side is Northbourne Court, with its remarkable Tudor garden mount, backed by ilex trees; beyond is the level marshland and in the distance the white cliffs of Pegwell Bay, in Thanet: a prospect indeed for a hillside town.

The position of this site in relation to the Betteshanger Pit (in the first instance) well illustrates the difficulty of laying down precise lines of development in an area of so many unknown factors. In the Report this town was shown as the largest of the new settlements; it was placed near the village of Ham, north-west of the Betteshanger Pit, and not far from the existing village of Eastry. The proximity of several other future pits, some on low-lying land, pointed to this Ham site as the destined capital of the coal-field. For various reasons the site finally adopted is due south of the pit, and will now serve also the future Ripple Pit, which is two miles further south.

But these changes in no way vitiate the essential principles of the plan; they merely show that there must be flexibility and resource.

In two years' time, perhaps, it may be interesting to visit East Kent; we hope that by then coal will be raised, houses lived in, and that some of the wounds we are at the moment inflicting upon the garden of England will have been healed—

> Altho' by woful proof we find
> They always leave a scar behind.

At any rate, we trust that to the "faire flower" of Kent we have not added

> "The rank smell of weeds."

Discussion

MR. ARTHUR KEEN, VICE-PRESIDENT, IN THE CHAIR

The CHAIRMAN called upon Mr. G. L. Pepler, Chief Town Planning Inspector of the Ministry of Health, to move a vote of thanks to Professor Abercrombie.

Mr. G. L. PEPLER: It would, I think, be difficult to exaggerate the importance of the work on which Professor Abercrombie is engaged in East Kent, a corner of England which occupies a key position in the fabric of our country. It is the front door to the Continent; in the midst of its pleasant fields stands Canterbury, with its glorious cathedral; its shores are fringed with health resorts that attract visitors from far and near, and centuries of English history are here recorded in earthwork and in brick and stone.

Now, on this soil, already fully occupied in fulfilling the needs of the present population, a place has to be found for the industries of coal-getting and iron-working—industries that call to mind tracts of country scarred and made squalid. Not only has a place to be found, but economic circumstances make it necessary that the full and efficient development of those industries must be facilitated in every possible way. Also, a large new population has to be housed and provided with all the necessities and amenities of life, including all manner of public services, such as roads, water supply, drainage, schools, libraries, playing fields, and so forth. It is a

situation fraught with danger, but full of possibilities, because planning and industry begin on an almost clean sheet. Therefore, there is no excuse for the disharmony and waste that unfortunately have been so characteristic of industry and its development in the past.

These were the circumstances that had to be faced, the opportunity to be grasped, and the apparently conflicting interests that had to be reconciled. To few men is it given to undertake a piece of work of such importance to the nation, and you will agree with me that in Professor Abercrombie the right man was found in the right place.

His survey, to which he only referred very generally, but which I have no doubt many of you have studied, sets out the main facts of the situation in a masterly and engaging manner and shows the way by which the development of the industries can be facilitated, how those engaged in them can be happily accommodated, and how works and workers can be fitted into the old and beautiful fabric with a minimum disturbance.

It is fortunate, too, that not only have the seventeen local authorities to which he has referred co-operated in appointing a Joint Town Planning Committee (a body that may yet, by enlarging its constitution, extend co-operation to the full extent necessary for the complete realisation of its plans), but at the call of the Archbishop of Canterbury, and under the leadership of the late Lord Milner, there was also formed an unofficial committee that has as its members the leaders of the industry and a representative of the workers, and also men prominent in the life of the county.

It will be seen, therefore, that the men and authorities who control the situation have shown their goodwill and are already co-operating. They are, thanks to this survey, equipped with knowledge of the facts, and with a policy and a plan based on that knowledge. I do not altogether agree with Professor Abercrombie that it is impracticable to convert the Joint Advisory Town Planning Committee into an executive body; because that, in fact, is the tendency. They first of all meet to discuss a plan, and afterwards they agree that the only way to carry it out is to continue the co-operation they have begun on a voluntary basis, and personally I think that is a very sound method of procedure. But obviously, in working out this policy and plan, many difficulties will be met, and some estimates may be falsified.

Does not the co-operation already achieved, however, justify us in the confident expectation that with the continued help of Professor Abercrombie and with a continuation of public interest and support, these difficulties will be successfully surmounted and the purpose of the plan achieved?

I have very much pleasure in moving a hearty vote of thanks.

Colonel F. J. BYRNE, C.M.G., who was called upon by the Chairman to second the vote of thanks, said: I am the unfortunate managing director of Messrs. Pearson & Dorman Long, Ltd., who own two of the collieries referred to by Professor Abercrombie. The other collieries do not belong to us, and in saying what I do I am not speaking for them. We have seventeen local authorities taking an interest in our doings. There is the Ministry of Health, the Post Office Telegraph Department, and all the different departments and bodies Professor Abercrombie has mentioned. We are very anxious to fall in in every way possible with the desires of the rural people and the bodies that have been set up to keep us within limits, but it is not easy. In a matter like this, when you are developing a new coalfield, the first consideration from our point of view must be the economic one. It is this condition of profitable working that must govern the situation and the choice of locality for the pits. I hope that Professor Abercrombie will not think that I am treating him lightly in what I have said. I have known him for many years. He and his colleague Professor Adshead, whom I see here to-night, advised us in the North in connection with Dormanstown. The village they have laid out there is second to none in the kingdom. We have been in constant contact since then. Professor Abercrombie is now advising the Public Utility Society of which we are fifty per cent. owners in connection with Aylesham. He is assisted by two other architects, and I am perfectly certain from the lay-out you see on the plans exhibited here to-night, and from what I have seen in the place itself, that it is going to be a credit to Kent; it will not disturb any of the amenities, and it will add to the appearance of the countryside.

Our main object is to get houses in which our men can live comfortably and healthily, they and their children. It is a very healthy part of the country, and I have never seen a healthier lot of children. The conditions obtaining in the houses already built, and in those which are to come, will lead to a very healthy population. That is our object and aim, as well as the general appearance of the country. But when it comes to filling in the gaps in all those long-ahead schemes, we will try to do so, but I am not sure that we can sink collieries at the exact places where Professor Abercrombie has placed his black spots on the map, or put up a village where he has made his red splodges. I agree, nevertheless, that some foresight must be shown, and in the case of the town planning in which Professor Abercrombie has taken so much interest, I think the scheme will work out well in the long run. But you must not be led away by his optimism. The shares of Messrs. Pearson and Dorman Long, Ltd., are not on the market, and if they were I should not advise you yet to buy them!

I join with Mr. Pepler in the vote of thanks he has proposed to Professor Abercrombie.

Colonel H. F. COBB: I am rather rash in making any remarks at such short notice, but I have been interested in Kent all my life, and particularly recently in the development going on in East Kent. I remember the Utility Society in regard to Aylesham to which Professor Abercrombie has alluded in a good deal of detail. The scheme just referred to is an excellent scheme, I think, if costs are more or less normal. Costs, unfortunately, to-day are very high, and, as Colonel Byrne has put it, one has to look at the economic result of any buildings that are put up. It may be—and I only hope it will be—that by the time Aylesham is fully developed the prices one may be able to get for some of the commercial sites will assist towards the development of the remainder of the site on what Professor Abercrombie would call proper lines; but I venture to suggest that to-day it is almost impossible

to reach an ideal. If you get 50 ft. streets—or I think Professor Abercrombie prefers the term "boulevard"—you have got to pay for them, and you cannot pay for that development at present-day costs. I have seen many of the housing schemes that the Government have put up, and I have found that it is possible in many of them to get quite good lay-outs and quite good developments with even 18 ft. roads. I admit that your main thoroughfares have got to be very much wider than that; but with present-day costs I do not think you can expect an ideal and at the same time an economic proposition.

So far as Aylesham is concerned, I think that the houses as designed and more particularly as planned by Professor Abercrombie and his colleagues will be a credit to East Kent, and I hope that our experience in Aylesham will tend possibly to even better results when it comes to the development of other areas, whether marked in red or black on Professor Abercrombie's maps. If I may speak for Messrs. Pearson and Dorman Long, Ltd., in this respect, I would say that you could not have any firm who are paying more attention to the æsthetic side as against the practical side. They are anxious not to disturb in any way the beauties that exist in East Kent, and at the same time they are regarding matters from the practical point of view.

Professor S. D. ADSHEAD [*F.*]: It gives me very great pleasure to support this vote of thanks to my old colleague with whom I have been long associated in schemes in the past, and in whose work I take the very greatest interest. As a southerner I hope that Kent will not be spoiled. I know Kent well. My first buildings were the Ramsgate Pavilion and Library and my last housing scheme was at Dover. I have travelled all over Kent during the last twenty years, and stayed at many places on the coast-line. I remember seeing the first shaft sunk—I watched it almost with tears in my eyes. It may be that the northern coast will not be spoiled, and that the south-west portion will remain as free from contamination as do Chatsworth, Haddon Hall, and the Peak of Derbyshire from the Derbyshire coalfields.

I would like to say one word about the future of Kent. We have to imagine that that portion which on the map is covered with black dots and red spots is going to be a new country, and I think all Englishmen should congratulate the local authorities, the colliery owners, and the Ministry of Health, who have taken such an enormous interest in the endeavour to produce a model industrial area. With regard to the scheme itself, I am inclined to think—it is the view I am taking with regard to another colliery area in which I am interested—that we must not worry about the collieries. As Colonel Byrne has said, a shaft may be sunk anywhere. I think it is an open question as to putting up five or six towns between Canterbury and Dover. My view would be to put up villages within walking distance of every pit when the shaft is sunk, and larger townships—perhaps two instead of five—in uncontaminated districts. In other colliery areas, more advanced than this one—in the Derbyshire colliery district, for instance—we find that a miner experiences no inconvenience at all in living ten or twelve miles from his place of work—in fact, half the miners do live five miles away. With the char-a-bancs owned by the colliery companies and others, it is nothing at all to take all the miners five or ten miles from the working. That is a condition which has developed even during the last two years. I am not at all sure, therefore, whether it is not really better to put one or two good towns where men can feel that they are living in untied houses; and, at the same time—for human nature is very perverse—to have villages of four hundred houses or something of that kind at every shaft. You can plant your townships permanently, and they are independent of any colliery shafts.

We have also to consider in colliery areas the ancillary industries. I think we may look forward to a time when there will not be so much coal exported as in the past. It will not pay the carriage to take coal very far from the area of the colliery. And that means chemical works and things of that kind. The company at present has only one or two shafts in Kent—quite small areas of coal development—and it is difficult to see how here there can be undertaken the super-industries that modern requirements seem to demand. I do not know where in the area these industries are to be placed, but they ought not to be near the townships. The whole thing, however, is still fluid and in process of development, but one must look forward and anticipate the inevitable.

I am glad that my old friend Mr. Skipper, of Norwich, is undertaking the village of Chislet. We all know Mr. Skipper's work at Norwich—his charming cottage designs—and I am sure that with Professor Abercrombie and Mr. Skipper the best will be done by our profession for this district.

Lieut.-Col. G. REAVELL [*F.*]: As a Northumbrian, and consequently accustomed to the horrors of the old type of pit village, I am glad to be a witness of the new spirit that is coming into colliery districts. I should like, however, to point out that if you make these housing centres too far away from the pit, although the great majority of the pitmen will travel considerable distances to get to and from their work, you get, in spite of all you may do, growing up within close distance of the pit, a ribbon formation along the roads of rather enterprising freeholders, who start little houses, shops, and settlements of all sorts. Unless there is some provision to guard against that, you will find them making blots on the landscape.

Mr. REGINALD BRUCE [*A.*]: I feel that Professor Abercrombie has a great work ahead of him. I personally have been associated with another part of England where coalfields exist, and I hope that the coalfields of East Kent will be vastly different from those of Lancashire. Those who know Lancashire will realise how much the coal industry can spoil lovely country. When one passes through Lancashire it is difficult to realise that comparatively a few years ago it must have been a delightful county; unfortunately to-day it is one of the blackest scars that England possesses.

I cannot quite agree with Professor Adshead in his somewhat pessimistic remarks, because I am quite confident that all interests—the local authorities and other persons and bodies—will associate with the industrialists and eventually produce a scheme which is workable. I know that pits have to be sunk at specific points, but with the knowledge which is gained as the development

takes place, I am sure that the ultimate positions of the pits can be approximately stated, and development can take place in relation to those positions without the effect to which Professor Adshead has referred. It is necessary, of course, that all undertakings should be worked in harmony and with the co-operative spirit, and I am delighted to hear that that spirit is developing so much in East Kent. I agree that Professor Abercrombie is the right man in the right place. He has produced that excellent survey which everyone interested in town planning should study. It is one of the finest productions of its kind in this country, and it opens one's eyes to the possibilities of that co-operative spirit without which any undertaking on such a scale as this must be a failure.

The CHAIRMAN: Colonel Byrne said something about the need for us to realise what we are up against in this matter, and I can assure him that we realise it quite clearly. The thing that we are up against is that one of the most delightful corners of England, full of a particular character of its own, has to be turned into an industrial and manufacturing district, and the only thing that we can congratulate ourselves upon in connection with it is that the inevitable development is in such able hands.

I was impressed at the outset with the soundness of the basis on which this whole scheme rests. In its way it is a reflection of the British constitution, but in place of the King, Ministers, Parliament, and everything proceeding downwards to the democratic ideal of local Government, we have the Archbishop of Canterbury starting the ball rolling by calling together the landowners; they in turn apply to the Minister of Health, who brings the local authorities together, until at length, through utility societies and builders, we get an actual town or village built, with the pitman living in a five-roomed cottage on a properly constructed road, with all the services available close at hand, including the telephone and, of course, wireless. I could only feel that if nothing more came of the elaborately worked-out scheme that has been prepared than this—that the houses to be built for all the many people working in this district are concentrated instead of being spread out along the roads—the whole thing would very well have justified itself. There is nothing so regrettable at the present time as the fact of constant development along the main roads for miles into the country in such a way that the country is spoiled, and people get conditions that are neither urban nor rural, losing all the advantages that belong to dwellers in cities, and gaining none of those that belong to rural life properly understood. That is the thing that will be avoided here—at least, it appears to be everybody's intention to avoid it; and no doubt the underlying principle will be that there shall be concentration instead of a ribbon development along existing roads. That is a very important consideration.

I hope a reasonable amount of architectural control will be possible. It is one of the most difficult things in this world to operate, but there is crying necessity for it on every hand. I was rather interested in one point Professor Abercrombie referred to, and that was the general effect of design in streets; that where the design of streets and the grouping of houses was very carefully and elaborately studied it defeated its own purpose, and that the best ultimate results were often found where the utmost breadth and simplicity obtained. Often when I visit housing schemes in new districts I feel that the thing has been overdone. There is a self-consciousness about it which rather offends, and one yearns for the simplicity of the old villages that is missed in many of these very carefully designed new towns and villages. But the subject is endless, and one might discuss it for a very long time.

We have to congratulate Professor Abercrombie on the grasp of this matter which he has shown. He realises down to the last detail what is required. Whether it is possible to carry it out remains to be seen, but as long as developments are in the hands of properly instructed people who have studied these matters, we shall be relieved from a great deal of annoyance and irritation to which we should otherwise be subjected. I think we have had an immensely interesting paper, and I thank Professor Abercrombie.

The vote of thanks was then put to the meeting, and carried by acclamation.

Professor ABERCROMBIE (in reply said): As the Chairman has said, this is a subject on which one could talk at very great length. Professor Adshead has indicated that the possible suggestions for the solution of the housing problem are almost infinite. One that we considered at an early stage was to have one single new town in the centre of Kent, with a quick means of transport from and to all the pits. The opposite extreme was to let each pit have its individual scheme. For various reasons we are rather in favour of the policy of creating villages and towns for several—two or three—pits. Nothing is finally fixed, and the position of the pits is unfixed. We would never think of producing a town plan in which the positions of the pits were fixed as though they appertained to something in a legal document. The positions shown are only suggestions based on internal evidence of geological formation and so forth. I think personally when the pits are located they will be somewhere near where they are shown in the plan. But, as I have twice mentioned, the whole essence of a plan for a region of this sort must be flexibility.

It has given me great pleasure to bring before you a summary of our labours up to the present day. I hope that in the near future I shall have completed my labours in East Kent, and it will be interesting to compare the original ideas for development with the actual realisation of the scheme during the next few years.

Exhibition of Modern British Architecture

OPENING BY VISCOUNT PEEL.

On Tuesday, 26 April, the Exhibition of Modern British Architecture, in the Galleries of the Royal Institute, was formally opened by the Rt. Hon. Viscount Peel, P.C., G.B.E., First Commissioner of Works.

The chair was occupied, in the absence of the President of the Institute in Italy, by Mr. Walter Tapper, A.R.A., member of the Council, who called upon Lord Peel to declare the Exhibition open.

VISCOUNT PEEL AND MR. WALTER TAPPER, A.R.A., AT THE OPENING CEREMONY

Viscount Peel: One of the reasons I have been asked to open this Exhibition, no doubt, is the fact that I am not myself an architect. But it is, perhaps, more the duty of a layman, as this Exhibition is, I understand, mainly for the education of laymen, of people who are called, in another connection, clients.

I suppose that the object of this Exhibition is to promote the art of architecture. The present is the first of an annual series of exhibitions which are to be held, of drawings, models and photographs of contemporary British architecture, which will be in addition to, and not in competition with, the architecture room that we are so familiar with at the Royal Academy. Anyone, I believe, may send his works here, and, if they are good, they will be accepted and exhibited, goodness—which is not the case in all exhibitions—being the sole test of reception. The Institute has already held exhibitions of American architecture and of Swedish architecture, and I am informed that exhibitions of the architecture of other countries will be held here, so that we may see whether we have anything to learn, or how much to admire, in contemporary architectural art in other countries.

No doubt the object of an exhibition of this kind is to stimulate the interest of the public in good architecture, shall we say, to educate the public? Or perhaps "to enlighten" them would be a more courteous phrase. But I think another purpose in the Exhibition is to rouse the indignation of the public against bad architecture. I divide the public, from the æsthetic point of view, into three classes, the first class being those who have æsthetic knowledge, either natural or trained; the second class are those who are entirely insensitive to considerations of this kind—I am afraid

they are common and familiar in almost every country. I have no doubt that even at Athens, where there is supposed to have been a high æsthetic standard, there were many Greeks who probably objected to such a splendid site being used for the Parthenon. And there is the other great class, to which the majority of the public belong, who are not insensitive to æsthetic considerations, but who are largely unconscious of them. It is the object of exhibitions of this kind, and, I have no doubt, of the Royal Institute itself, to reach this innate and yet hidden sensitiveness, and make people eager to satisfy their longings for the beautiful.

I have no doubt that interest in beautiful buildings is very largely growing in this country. As First Commissioner of Works, I have practical knowledge of it. Our ancient buildings, of many of which we are the guardians, are drawing larger and larger crowds. We judge of their interest partly by the test of cash, by the contributions which the public makes to what are known as " grants in aid " for the upkeep of these public buildings. We have had two notable instances lately of the way in which æsthetic have vanquished purely utilitarian considerations. One was, of course, the case of Waterloo Bridge. There was a direct contrast and conflict between the principle of utility, as exemplified by those who desired to have six lines of tramway along the bridge, and of æstheticism as shown by those who desired to preserve the bridge as one of the finest buildings in London. Those two sides had partisans in the County Council, and they had partisans in Parliament. Fortunately the æsthetic prevailed, largely owing to the highly organised public opinion, which was able to express itself most vigorously, in the Press and elsewhere, and which was accepted and followed by a not unwilling County Council and a not unwilling Government.

The other great instance of the victorious battle recently waged was the case of the City churches. There, again, there was a direct issue between the æsthetic principle and the principle of raising money by selling the buildings and their sites, and again the æsthetic principle triumphed, and it triumphed in a body which is not usually credited with any very sensitive feeling for beauty—the House of Commons.

Looking at the public buildings as I was coming along I wondered whether it was possible to judge, from the outside of the buildings, the character of the work carried on inside. I could not see, looking at the War Office, that it was the abode of great warriors, or that the Admiralty was the home of great seamen. Possibly it is difficult to express what goes on inside buildings by their outward appearance, but at any rate the architects do not seem to have made any great efforts to do so. I was struck by this contrast : that whereas our Parliamentary discussions and debates take place in a Gothic building, our administration, in the Colonial Office and the Foreign Office, is carried out in a Classical building. I am not sure that there may not be some profound reason for this distinction, but if there is it has not yet reached me. The office I hold is responsible for a large number of buildings—something like 6,000—but they are not all in this country ; there are embassies and consulates abroad. It is worth while, I think, bringing in the Government in these matters, because, for good or for evil, they must, by the fact of their being responsible for this large number of buildings, have a considerable influence over the great art of architecture.

And now you will perhaps allow me to make a little humble boast on behalf of the office that I hold. We have been trying, for years past, to introduce something of dignity and proportion and simplicity, and beauty, shall we say ? into such practical and necessary buildings as post offices, telephone exchanges, labour exchanges, and so on ; and there is great competition among some of the big provincial towns to have as fine buildings, anyhow, as are put up in other provincial towns. The more uninteresting many towns are, and the more sordid their streets, the more we are anxious to introduce the element of beauty, generally by erecting a building which will give pleasure to those who have feeling and sensitiveness.

If I may sum up the principles of our administration I may use an old phrase of Thucydides, "*φιλοκαλοῦμεν γὰρ μετ'εὐτελείας*," that is, " We are lovers of the beautiful and yet we practise economy." In connection with economy, we have had very agreeable co-operation with the Royal Institute of British Architects. We have, of course, excellent architects in our own office, but we have frequently invited the co-operation of some of the eminent architects belonging to this Institute in connection with our great public buildings, for instance, in the new Parliament buildings which are being put up near Belfast ; also in the new embassy which is to be erected at Washington, of which Sir Edwin Lutyens is, of course, the architect. We are, therefore, I think I may say, on very friendly and excellent terms, and I thank you very much for the co-operation which you have always given us.

There are two points more I should like to mention. One of the difficulties in modern days is this, I suppose : that the tremendous development of science and the application of science to business have rather outstripped the æsthetic principle. Our factories may be houses of science and not houses of beauty. Many people think that it is hopeless to build fine railway stations, and fine factories. In many ways we have lagged behind the rapid development of science as applied to business. But in old days—if you will allow me another classical reference—Venus and Vulcan were very good friends, and I see no reason why they should not be again

associated. We must take a large discount from the value of the principles of architecture if it cannot meet the problems which industry has set to her in the building of shops, factories, railway stations, power-houses and other buildings which do not always suggest to our minds a sense of beauty, dignity and proportion.

The other point I would just comment on is very much in our minds at the present moment, the great peril to the countryside which arises from a very wholesome desire on the part of people to leave the towns and return to the country—at least for week ends. We have noticed, many of us, a good number of very unlovely structures. The blister of the bungalow still grows and festers on the countryside, and indeed there is considerable danger that the incomparable beauty of our rural England may be dimmed, if not destroyed, by this haphazard building in its most beautiful spots. Urban slums may be said to be the shadow of our modern civilisation, but rural slums would really be its eclipse.

From these and other evils we invoke the assistance of the Royal Institute of British Architects to deliver us. And, may I say, I highly appreciate the honour of having been called upon to open the first of this annual series of exhibitions which we hope is going to do so much to educate a large and interested public.

I beg to declare this Exhibition open.

The Chairman then proposed a vote of thanks to Lord Peel, which was warmly accorded by acclamation.

The Exhibition*

BY SIR REGINALD BLOMFIELD, R.A.

The R.I.B.A. has organised this Exhibition with the object of stimulating public interest in contemporary architecture, and of providing opportunities for a more extensive exhibition than is possible at the Royal Academy—where photographs are very properly excluded—the Academy being a purely artistic body, and the space available is limited. Exhibitors at the R.I.B.A. are only allowed two works, and photographs are not always obtainable. The result is that the Exhibition can hardly be regarded as representative of the best work now being done in this country; still it is interesting and valuable as showing the trend of architecture in England. Much of the work shown is sound as far as it goes, and points to two rather important facts, first that English architecture is supreme in domestic work, and secondly that on the whole it is recovering the sanity and reasonableness which have always been the finest tradition of English art.

Few important houses are shown, and it would seem hat their day is over, at any rate till we are relieved from the inordinate taxation under which we suffer at present. The great houses that we used to enjoy doing and seeing done by others before the war, appear to be a thing of the past; but the medium sized, and more particularly the small house of five or six bedrooms, have come into their own, and there is abundant evidence in this Exhibition that they are being very well done. They are designed on sensible and economical lines, recalling, in so far as they relate to the past, the modest dwelling house of the middle of the eighteenth century. The stringent conditions of finance are having the chastening effect of illness. Architects having found that for economical reasons they must dispense with the picturesque paraphernalia so dear to the nineteenth century, have learnt that their architecture is all the better for its abstention from ornament, and for its reliance on purely architectural qualities. The small house is better done in England than in any country in the world, unless it is Sweden. The Swedish architects, the best of them at any rate, have returned to brick, and they use it with uncommon ability, basing their work on the tradition of old North German brickwork, and even more so on English domestic work. Those who know Stockholm will recollect some admirable brick houses near the British Embassy.

There are, it seems to me, two dangers to which our architecture is still exposed. The first is the vice which William Strang used to call "ikiness," the irresistible craving to do strange things or to do ordinary things in an extraordinary way, merely for the sake of so doing them. If it is a little house in the country we find queer materials, unexpected forms, crazy paving which trips you up, well heads in which the water stagnates, the whole place redolent of design which there is no escaping, when we would willingly change the lot for the quiet stretch of grass and the sober yew hedge of an older and forgotten England. These things are histrionics, not architecture, and I would recall their designers' attention to two time-honoured tags: "*ars est celare artem*," and the maxim in Aldrich's "*Elements of Civil Architecture*": "*coelatura nimia venustatem opprimit.*"

The other danger is at the opposite pole. There is a tendency among some of our younger designers, more apparent in the sister arts, it is true, than in architecture, to turn their back on the past, and act as if it had never existed. I need hardly point out that no great artist has ever done this in the immense historic past.

* From the Preface to the Catalogue of the Exhibition.

He has taken the lamp from his predecessor, and passed it on to those that follow him, burning, it is true, with redoubled brilliance, but still the same lamp ; and even if it were possible for the artist to start on a " tabula rasa," those who have to use his work and live with it would find it unintelligible owing to associations the origins of which lie far back in the past. I am therefore entirely unconvinced by the latest experiments now being made in France to evolve new forms out of reinforced concrete. Most of them are of a gratuitous and appalling hideousness. A contrast was recently made between this sort of thing, and what the writer of a paper described as " pompier " art. In so far as this " pompier " is identified with the art of the Paris Opera house I agree with him ; but when one substitutes Gabriel for Garnier and the École Militaire or the Petit Trianon for the Opera house, the whole position is reversed. The new Architecture is like the new Poetry, it is simply negative. This way madness lies, and I commend to the attention of those who think well of it, some of the efforts of modern Spanish architecture at Barcelona and of Soviet Architecture in Russia. Fortunately we have not yet suffered much from it in England, and as long as we are true to ourselves we need not fear its incursion.

I recently had some correspondence with a German writer on the subject of " Expressionismus." He pointed out that English art had always followed a line of its own apart from the Continent, and in his opinion it was well that it did so. I think he was perfectly right. I have no use for cosmopolitanism in Art or in anything else. We should learn on every hand, but the end in view is not to imitate, but to broaden and deepen our own inherited outlook.

The exhibition was open to the general public on Wednesday, 27 April, and will remain open until Friday, 3 June. One hundred and sixty architects, or firms of architects, have sent works.

Essays on Old London*

REVIEW BY SIDNEY TATCHELL [*F.*].

Mr. Sydney Perks has earned the gratitude of all Londoners for the opportune publication of his three admirable essays. They are the result of thought and research over a period of more than twenty years, and only those who have adventured into such romantic fields can appreciate the exhaustive and patient labour, the careful sifting of evidence, and the critical judgment involved in their preparation.

Mr. Perks, holding the ancient office of City Surveyor, has brought to his task the sympathetic understanding of the antiquary with the technical knowledge of the architect, and these essays provide a valuable guide to those who are called upon to undertake the responsible tasks of research and restoration.

Guildhall, the very heart and centre of old London, rightly claims pride of place ; and the author, whose working hours have for so long been spent within its walls, has brought to light a rich fund of material for study and discussion. Much space is devoted to the crypt and its history, and the evidence adduced by the author provides a convincing story of its eastern and western sections. Every detail and much of the material is at hand to enable the Corporation to restore the entire west end so that it may be seen with the unspoilt fifteenth century eastern section.

Of the interior of the Great Hall, Mr. Perks' suggestion for the removal of the panelling and the restoration of the arras around the hustings at the east end in the manner of the fifteenth century will meet with the warm approval of all who have studied the present unfortunate arrangement of two competing canopies, one in stone and the other in wood, the latter entirely destroying the appearance of the finely designed and dignified stone treatment, evidently part of the original fabric.

The author is to be congratulated on the adoption by the Corporation of his proposal to strip from the walls of Guildhall the plaster and paint and expose the original stonework. Not only has this operation greatly enhanced the appearance of the Chamber, but it prepared the way for the discovery of the only original window. Each stage in the process of the opening up of this window is described, and provides a record of sound reasoning and careful study. The result is a very perfect piece of work, an excellent example of the proper interpretation of the terms restoration and preservation.

The controversy which took place in 1909 on the subject of the façade is dealt with at some length, and the author rightly considers that the façade should not be criticised solely from an æsthetic point of view, but should be regarded as a City landmark. Dance's effort at Gothic —save for the entrance—is unsatisfactory ; and it is open to question whether in 1909 it would not have been better to remodel the main façade in a manner more in harmony with the mediæval character of the Great Hall whilst retaining the entrance porch and the dominating lines of the composition.

Wren's original porch, of which an illustration is given, was pulled down in 1788 to make way for Dance's porch erected in 1789, and which later narrowly escaped the same fate.

In view of the designs which recently have been published in the professional journals, showing a proposed re-

**Essays on Old London.* By Sydney Perks, F.S.A., Cambridge University Press. Price 12s. 6d.

modelling of the buildings abutting on Guildhall Courtyard and its approaches, it it to be hoped that the same appreciation of the amenities of Guildhall will be shown by those to whom the work will be entrusted as displayed by the City Surveyor in his dealings with the fabric.

The illustrations to this essay are excellent, but too few. In a future edition the plans of Guildhall on page 7 might, with advantage, be reversed, so that they would represent the building as approached from Guildhall Yard. The researches which have brought to light so many interesting features would justify plans on a larger scale, supplemented by sections. If, in addition, conjectural block plans could be prepared from the old maps showing Guildhall in the fifteenth and sixteenth centuries in relation to Aldermanbury, Cut Throat Alley and Basinghall Street, they would greatly enhance the interest of what is already an important contribution to the historical records of this unique building.

The second essay is entitled " London Town Planning Schemes in 1666."

Thanks to the wise conservatism of the City Fathers and the great traditions which are their proud heritage, London has suffered but little from the well-intentioned but often misguided excursions into improvement schemes which have endangered, and in some cases destroyed, the historical landmarks of some of our towns and cities.

The Great Fire was still smouldering when Wren, Hooke, and Evelyn—to name but three of those who had visions of a new London—were hastily preparing schemes for replanning and rebuilding the City. Within two days after the conflagration Wren had completed his plan and submitted it to the King—showing that " hustle " was not unknown in 1666. John Evelyn made a gallant effort to be first in the field with his " Conceptions with a Discourse annexed, " but found on presenting these to the King that Wren had " got a start of him."

Regrets are frequently expressed nowadays that advantage was not taken of the great opportunity presented by the Great Fire to replan the City. A careful perusal of Mr. Perks' second essay, however, compels the reader to the conclusion that London would have lost rather than gained by adopting Wren's plan. He pays just tribute to a remarkable but ill-considered work. Had this great town planning proposal been carried out the streets would, doubtless, have been wider and more direct, but the ancient landmarks, the parochial and ward boundaries, some of which have existed since Norman times, and most of the City churches would have disappeared. St. Paul's as we know it could not have been erected owing to the extremely small space provided for it by Wren at the acute angle of the junction of his two wide avenues at Ludgate.

Apart from the fact that scarcely any of the old streets would have been preserved in Wren's plan, the cross streets, with but two or three exceptions, were not at right angles to the main thoroughfares—a grave defect in town planning.

For these, and other reasons which are set forth in a convincing manner by the author, Londoners may cease to regret that their City was not replanned. There is a magic clinging to its ancient ways to which the most unimaginative of its citizens cannot remain altogether indifferent; and to those that love it, every court and alley has a romantic tale to tell. To quote Henley :—

> " And the high majesty of Paul's
> Uplifts a voice of living light, and calls—
> Calls to his millions to behold and see
> How goodly this his London Town can be ! "

In the " Scheme for a Thames Embankment," dealt with in the third essay, it is demonstrated that the practical considerations associated with the sea-borne merchandise of a great city were overlooked. Mr. Perks' exhaustive and convincing précis of the City records leaves the reader satisfied beyond all reasonable doubt, that attractive as an embankment would have been, its abandonment was inevitable.

This collection of essays is published by the Cambridge University Press, and it is, therefore, scarcely necessary to comment on the type, margins and other excellent qualities which always distinguish its productions. Altogether a piece of work of which both author and publisher may justly feel proud.

The Library

NOTES BY MEMBERS OF THE LITERATURE COMMITTEE ON RECENT PURCHASES:

[These Notes are published without prejudice to a further and more detailed criticism].

THE SMALLER HOUSE OF TO-DAY. By Gordon Allen [*F.*]. 8o. London 1927. [London : B. T. Batsford, Ltd.] 10s. 6d.

This book of 175 pages, amply illustrated by examples by the author and several other well-known architects, gives an enormous amount of information on the subject from all points of view, the site, accommodation, plan, aspect, and cost, also materials, details, fittings and everything connected with a house, outbuildings and gardens. A most useful addition to an architects' library and a valuable incentive to the discerning layman who wishes to have a satisfying home of his own. L. A.

DESIGN AND CONSTRUCTION OF FORMWORK FOR CONCRETE STRUCTURES. By A. E. Wynn, B.Sc. 8o. London, 1926. [Concrete Publications, Ltd., 20 Dartmouth Street, Westminster.] £1.

This book has been very well reviewed in one of the bulletins devoted to the use of concrete. Its technical qualities can therefore be depended on, and Mr. Wynn has a singularly clear method of writing. Though primarily intended for contractors carrying out reinforced concrete work, it was written for all who are responsible for finished structures and any architects designing such for concrete would do well to be familiar with its contents. The forms inside which concrete is erected (*i.e.*, chiefly wood, but also steel) are dealt with exhaustively. There is a great deal in the less technical part of the book, dealing with the character and building up of the formwork, which is both easy to understand and helpful to any constructor. The illustrations are excellent, mostly clear, explanatory diagrams, but there are several photographic ones showing structures of various kinds in course of erection.

As the skilful assembling and handling of formwork enters so much into the whole economy of concrete construction, the architect ought certainly to know something about its main principles. D. T. F.

Informal Lectures to Workers in the Building Trades

The second series of lectures to workers in the building trades was continued on 2 March 1927, when Mr. H. A. Holt, A.I.Struct.E., gave a Paper at the Royal Institute of British Architects on the "Surface Treatment of Concrete and Cast Stone."

Surface Treatment of Concrete and Cast Stone

BY H. A. HOLT, A.I.STRUCT.E.

THE subject of the artistic treatment of concrete is one which until fairly recently has been somewhat shelved. Architects have in the past relied almost solely upon the design of a concrete structure to produce a pleasing effect and were resigned to the fact that the material which they were using must necessarily be of a cold, monotonous grey appearance.

Traditional construction consisted of a collection of units assembled according to the design of the architect, and the design was prepared with due regard to the supposed limitations of the material employed. But concrete construction involved an essential departure from the traditional, and by presenting new problems for consideration exerted a corresponding influence upon design. Gradually the immense possibilities of the surface treatment of concrete from an artistic point of view began to be realised, and it is probable that this realisation was as much due to the clever and enterprising craftsmen of that time as to anyone. They gave us mouldings of intricate pattern and excellent finish, still to be seen to-day and in almost perfect condition, although now more than fifty years old, but the colour was just the same, that dull, monotonous grey.

In this gradual development a variety of processes for treating concrete so that it will be pleasing to the eye have been evolved during recent years. These may be classified as follows:—Coloured cement washes; coloured cement used in concrete generally; renderings and stuccos coloured or otherwise; exposed aggregate; cast stone. All these treatments are used nowadays to good effect and each has its particular advantages for different classes of work.

Of all the methods which have been evolved for treating a concrete surface none are so interesting or productive of such good results as the last two mentioned, and it is to cast stone and exposed aggregate work that I propose to confine my remarks to-night.

Perhaps the first man to realise the possibilities of concrete in the form of cast stone took a tip from Nature, for, after all, what was Nature's method of building if not concreting? The formation of sedimentary rock, chalk and other materials of the earth's strata is due to a similar cementation slowly developed throughout the ages as that brought about more rapidly in the concrete of modern science. The lead given by Nature was recognised, and during the last twenty years in particular a tremendous advance has been made in the perfecting of the texture and colour of cast stone.

Cast stone can be described as reconstructed stone, and I think as a matter of fact that this is a far more apt description of the nature of the material. A few years ago it was known as "artificial stone," and as such it did not flourish. Its very name mitigated against its success, as no architect cared to see his work being carried out in an "artificial" material.

There are still a few architects who object to the use of cast stone on the grounds that it is an imitation, no matter how excellent it may be in other respects. Many, however, agree that it is not an imitation at all but a truly reconstructed stone. I would go a step further and say that cast stone is the name given to a drastic and successful method of treating natural stone to increase its life and preserve its beauty both as regards its colour and texture.

I have brought with me a few examples of cast stone and also pieces of the natural stone of which they were reconstructed. They are on the table below me, and I hope that anyone who is sufficiently interested will examine them afterwards. I was showing them to a man the other day and explaining to him how they were made. He replied, "Yes, they don't look so bad, but why don't architects use cast stone? Look at all the new stone buildings in London, Peter Robinson's, etc." Well, since Peter Robinson's building is faced with cast stone it is undoubtedly the best testimonial he could have given.

Cast stone is made by crushing natural stone or using the waste stone chips from quarries or stone yards and building it up again into definite shapes, but replacing Nature's binding materials with something which in many instances is infinitely stronger, namely, Portland cement. The surface of the cast stone is then dressed. Attention must be given in selecting aggregate of the right size, and grading. This to some extent depends upon the type of dressing decided upon. If the surface is to be tooled the aggregate should all pass a $\frac{1}{4}$-inch sieve and be graded right down. Although it is essential that the aggregate contain stone dust so that the densest possible concrete is formed, an excess of this dust is undesirable,

as it weakens the concrete and the surface dusts on exposure. Again, in determining the size of the aggregate the nature of the stone to be reconstructed must be taken into account. Thus, where for Portland and Bath stones ¼-inch stone chips can be used, the aggregate from sandstones must be crushed much smaller, actually down to the sand of which it is formed.

In reconstructing the majority of stones it is unnecessary to add sand to the crushed stone aggregate if it is properly graded, but where it is necessary care must be taken that the sands selected are really suitable from the point of view of colour and character; for example, the addition of china clay sand, providing it be fairly free from china clay, immensely improves the appearance of reconstructed granite, the mica in the sand adding life and sparkle to the stone.

Exposed or scrubbed aggregate work differs very slightly from cast stone in all but appearance. It is not a reconstruction of any known material but a true revelation of concrete. It is a most interesting treatment and one which promises to receive considerable attention in the future. The principle is, as is the case in cast stone, to remove from the surface of the concrete the film of cement which, if the concrete be properly made, invariably forms, and expose the aggregate. One has to rely on the aggregate or combination of aggregates to give a pleasing and attractive appearance when exposed. There is an unending variety from which practically any shade can be produced. Several firms now market special aggregates for this purpose, but beautiful effects can be evolved by using local ballasts, flints, granites, and other crushed rocks, while such materials as marble chippings of different colours, china clay sand, broken brick, crushed pottery, etc., may be used to good effect. It is, of course, desirable that the aggregates chosen should, when exposed, harmonise with the colour of the surroundings.

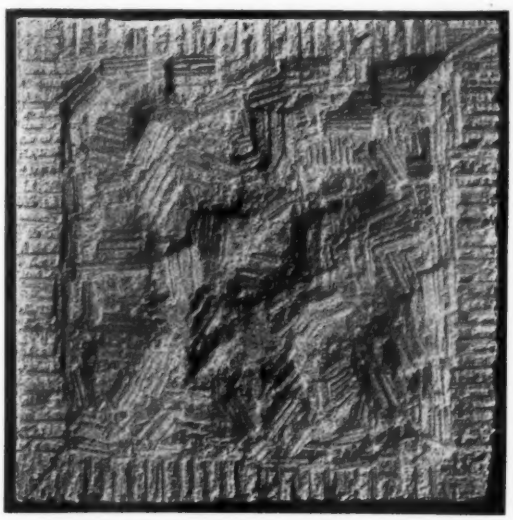
Whereas in cast stone the size of the aggregate is limited by the character of the natural stone and the method of dressing, with exposed aggregate work there is no such limit, and the size of the aggregate is only governed by the requirements relating to the manufacture of sound, dense concrete.

One of the most important factors to be taken into consideration in the manufacture of cast stone is the exact reproduction of the colour of the natural stone. This is not an easy matter, and entails a considerable amount of experimental work. Not very many natural stones can be reproduced by using grey Portland cement, as the tone is too dark. In the majority of cases white Portland cement or a mixture of white and grey give the best results. For cast Portland stone no pigment is necessary, but for nearly every other stone it is essential that pigment be added to the cement, for although the natural stone aggregate will provide most of the colour, it is unavoidable that some of the cement should show, and this must be so coloured that when it is set and hard it shall be indistinguishable from the aggregate. You will therefore see that the pigment used must be virtually fadeless.

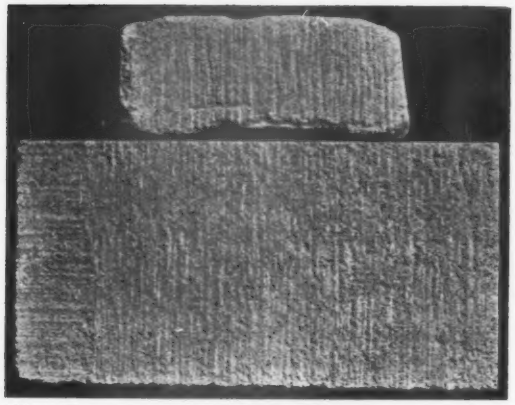
Coloured cements in considerable variety can now be purchased or the cement can be coloured by the addition of mineral oxides.

Here we get another tip from Nature! The pigments used for colouring synthetic stone are, practically speaking, chemically the same as Nature used in colouring her natural stones. So we cannot go very far wrong there. It is unwise to use organic pigments unless one is first of all assured of their permanence, as they are generally unstable and will fade when exposed to the sun. It may be argued that the incorporation of pigments has a deleterious effect upon the strength of the concrete. Well, of course, that is so, but to a very small extent, as, happily, our natural stones are as a rule not highly coloured and therefore very little pigment is used, usually two or three per cent. If a good British Portland cement is employed, the strength of the concrete even containing pigments is ample.

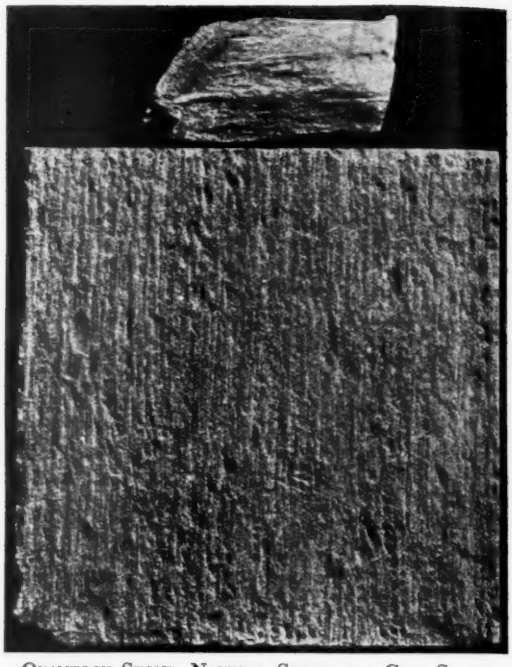
The pigment is supplied in the form of powder and this must be thoroughly mixed with the cement in the dry state in order to ensure that it will be uniformly distributed throughout the concrete. If this is omitted the surface of the cast stone will be streaky and blotchy. The best and quickest method of mixing the pigment with the cement is to pass both two or three times



CAST PORTLAND STONE ROUGHLY TOOLED

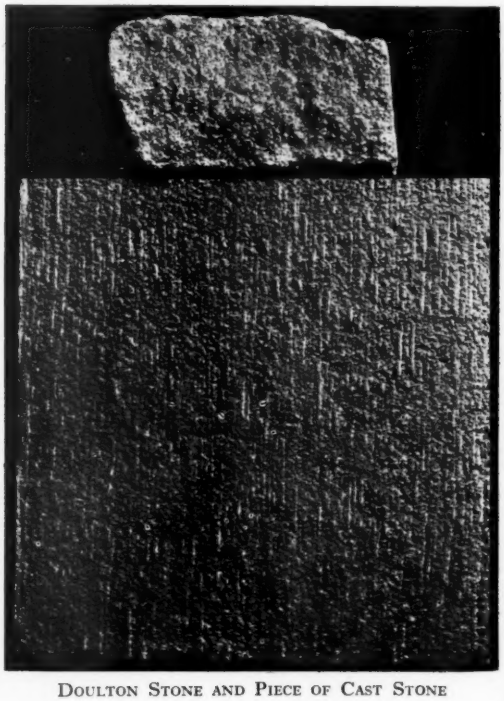


HAM HILL STONE, SHOWING NATURAL STONE AND SLAB OF CAST STONE



QUANTOCK STONE, NATURAL STONE AND CAST STONE, TOOLED SURFACE

RUNCORN STONE AND A SLAB OF CAST STONE



DOULTON STONE AND PIECE OF CAST STONE

through a 50² sieve. The cost of different coloured pigments varies considerably. The two most commonly used for cast stone, red and brown, are fortunately the cheapest, with buff and cream costing about 25 per cent. more than red.

Opinion is very divided as to the best consistency to use in making precast synthetic stone, and as there are several methods of moulding, the variation in water content is probably due to the fact that whilst one manufacturer finds that his process calls for a dry mix another may find that a wet mix is more suited to his work. In some works, water is added until the stone mixture is of the consistency of cream, and the decreased strength which would result from such a sloppy mix is compensated for by the richness of the mix.

It is a feature of sand moulded cast stone that a very sloppy consistency may be used with satisfactory results as far as strength is concerned, as the excess water is absorbed by the sand; but generally speaking it is advisable not to make the mix wetter than is absolutely necessary in order to run the concrete into every part of the mould and thoroughly consolidate it. For important buildings cast stone is sometimes made solid throughout; that is to say, the special aggregate and coloured cement extends throughout the whole section. By far and away the most common method is to use the special cast stone mixture of crushed stone and coloured cement for the face only and ordinary ballast concrete for the backing. If, as is usually the case, the maximum size of the special aggregate is $\frac{1}{4}$ in., the facing need not be more than $\frac{1}{2}$ in. to $\frac{3}{4}$ in. For cast stone units that are to be made face down in a mould, the facing is formed by filling in a layer of about $\frac{3}{4}$ in. of the special mixture at the bottom of the mould and then filling in with ordinary ballast concrete to form the backing, taking care not to tamp or rod the backing to such an extent that it is forced through the facing mixture. When the articles are to be made face up the process is reversed—the ballast concrete is first poured to within about $\frac{3}{4}$ in. of the top of the mould, and the facing is then filled in and screeded off level with the top of the mould. Whichever method is employed, the really important point is that both the concretes for the backing and face are mixed, placed and allowed to set at approximately the same time, thus forming so strong a bond between the two that they become from the first actually one piece of concrete. There is then no danger of the face coming away. The mix usually used for the face is 3–1, with ordinary cements and white cement, and $3\frac{1}{2}$–1 with rapid hardening cement. The proportions for the backing must, of course, depend upon the nature of the product and the use to which it is to be put.

Owing to certain difficulties, cast stone was, until fairly recently, used almost exclusively for precast work, but the difficulties have been overcome and a satisfactory method has been found of constructing cast stone in situ. A really fine example of this work is to be seen near Dorking in the new Deepdene bridge over the river Mole. The locality is, of course, a beautiful one, and the County Council decided that a bridge of plain concrete would not be acceptable in view of the beauty of the surroundings, and they desired the face work to be in either brick or stone. They eventually agreed, however, to allow it to be built of cast stone which must harmonise with the surrounding country. The stone reproduced was a buff sandstone, and although I did the experimental colour work for this job, I am bound to say that the surface of the bridge more closely resembles the natural stone than did the laboratory prepared samples. I may add that the whole of the work has been carried out by direct labour. The balustrades and coping are precast in metal lined moulds, but the surface of the bridge itself is of cast stone made in situ. In order that the backing and face should be placed together, thin iron plates were inserted and held with distance pieces between the forms, about 1 in. from the outer shuttering. The cast stone mixture was placed and tamped into the 1 in. space between the plate and the outer leaf of the shuttering. The ballast concrete was placed on the other side of the plate. This plate was then lifted and a little more tamping united the two mixes together.

An alternative method of carrying out this work in situ is, instead of the iron plate, to insert a sheet of wire netting between the forms. The netting keeps the two mixes apart while being placed, but when tamped allows them to bond with each other through the netting.

The treatment of the surface of cast stone is one of the most important stages in its manufacture. In the modern product, not only must the colour exactly resemble that of the natural stone of which it is made, but also the texture must be a faithful reproduction. There are several different methods of accomplishing this, and I want to give you a short description of each, since the size of aggregate, water content and period of curing before the stone is dressed varies somewhat with each method. There is one point, however, which is constant to them all and that is the result achieved—namely, the removal of the surface film of cement and the exposure of the natural stone aggregate.

Of all the methods of treating cast stone, none perhaps is more interesting or productive of better results than the tooled surface. Natural stone has been finished in this way for centuries, and it is a method which is quite familiar to both the architect and the mason. The tools used are just the ordinary mason's bolster and a wide chisel with serrated teeth. No coarse aggregate, that is to say, larger than $\frac{1}{4}$ in., can be used if the surface is to be tooled, otherwise it would be dis-

lodged by the chisel, leaving a pitted surface. It is also essential that the concrete be extremely dense and contain no air or water holes. The concrete must be fairly hard before it is tooled in order that the surface may be sharp and clean cut, but, on the other hand, it is unnecessary and unwise to wait until the cement has attained great hardness, as the labour involved in tooling is correspondingly increased.

Another tool which is sometimes used for exposing the aggregate is the bush hammer, the face of which is cut into broad based teeth. It is seldom if ever used on precast articles, in which the same effect can be produced in other and cheaper ways. Bush hammering is chiefly used for exposing the aggregate of concrete poured in situ where some time must elapse before the shuttering is removed.

An inexpensive surface treatment is to " comb " or " drag " the surface as soon as the concrete has been moulded. This is, of course, only possible with products that have been made face up. Any tool that will provide the desired marking may be used, such as a wide-toothed comb. In this treatment, which is intended to produce a ribbed and reeded effect, the aggregate should not consist of any stone larger than $\frac{1}{8}$ in., or it will be found that the surface will be torn by the comb. The mix should in this case be rather rich, 2–1 or $2\frac{1}{2}$–1, in order that a "fat" surface may be obtained. A small proportion of hydrated lime added to the cement will help to produce a fat mix in instances where the aggregate is deficient in finer material.

INTERIOR OF THE CHURCH OF THE SACRED HEART, WASHINGTON, U.S.A.
The entire interior decoration was carried out in exposed aggregate work
Murphy and Olmsted, Architects; Maginnis and Walsh, Associate Architects

Another method, and one which is very widely used is the rubbed surface. This is particularly suitable for high grade work and where very sharp arrises and intricate moulding are required. In precast work when the cast stone is taken from the moulds it will frequently be found that there are small holes on the surface due to the trapping of air. These and other irregularities must first of all be filled with an exactly similar mixture to that of which the facing is made. A cream is then made of very finely crushed stone and cement and floated over the whole surface. When this is dry it is brushed away and the result at this

stage is quite pleasing, and the sand-face finish thus produced is preferred by many architects. But if the rubbed surface is required the concrete must be left until it is a little harder. The cement must be approximately of equal hardness to the aggregate so that one is not rubbed away before the other. Carborundum is chiefly used for rubbing down, but York stone and red Mansfield stone are also suitable. Plenty of water must be used and the cement paste which works up must be removed with a brush and clean water. Carborundum blocks are made to special shapes for this purpose and machines are also available for rubbing or polishing concrete surfaces.

Polishing is another treatment of cast stone which is of course just a refinement of rubbing. The rubbing stone usually used for polishing is snakestone. It is a particularly suitable treatment for cast Hopton Wood stone and is used for interior as well as exterior work. Beautiful effects can be obtained by scrubbing or washing the cement away from the surface of concrete, and, as I mentioned before, this treatment is not confined to cast stone, but can be used on any type of concrete. The removal of the film of cement is effected in various ways, depending upon the length of time the cement has had to harden before the operation commences. In the case of precast units which have been cast face up the aggregate may be exposed straightaway by spraying the surface with a moderate pressure of water through a rose. When the product is between twelve and twenty-four hours old the cement may be removed by scrubbing with an ordinary scrubbing brush and water. In hot weather, or where rapid hardening cement has been used, a wire brush may be found necessary to expose the aggregate thoroughly. In cold weather it is sometimes possible to scrub the surface when the concrete is thirty-six hours old. After this period one must resort to other means, and here we have a choice of three, bush hammering, of which I have already spoken, sand blasting, used very occasionally (in this process a fine stream of sand is forced through the nozzle of a compressed air machine and by impinging sharply upon the concrete surface removes the film of cement from the face of the aggregate); and the last of the three methods, the acid treatment. A solution of hydrochloric acid is made in the proportions of three or four parts of water to one of acid. If a weaker solution is found effective it is to be recommended. This solution is then scrubbed on to the concrete with an ordinary stiff brush. It must be left on the surface a few minutes to give time for the acid to act upon the cement, but after that great care must be taken in removing all trace of the acid from the concrete. This is best accomplished by thoroughly washing down with water, preferably through a hose. Prolonged contact of hydrochloric acid with the skin will become painful, and if men are regularly engaged in this work it is advisable for them to wear rubber gloves.

In cast stone work where a very porous crushed stone is to be used as the aggregate, and this aggregate exposed by tooling, etc., it is advisable to treat the surface when the cement is thoroughly set and hard with a solution of silicate of soda or fluosilicate to increase its impermeability and reduce the risk of damage by frost.

It is of the greatest importance that the moulds in which the synthetic stone is cast should be of first class quality, and the greatest care should be taken in their construction both as regards design and workmanship. Several types of moulds are suitable for the purpose, namely, wood, metal-lined wood, cast iron, steel, sand, plaster and gelatine. All have their respective merits and are used for certain definite purposes. Iron moulds are, of course, dear, but their long life renders them an economical proposition where a great deal of repetition work is required. The constant renewal of wood moulds is an expensive matter where a comparatively few casts are to be made. Their life will be considerably prolonged, however, if they be lined with stout tin or zinc. Plaster and glue moulds are used for moulding special pieces which are undercut or which are of very intricate design. Their life is short, but they are inexpensive to make.

Cast stone moulded in sand possesses a very pleasing finish and does not have to be treated in any way at all after leaving the mould. The process is similar to iron moulding in sand, and it differs from all other methods of moulding concrete in that a separate mould is made for every casting, no matter how many times it is repeated. The process of sand moulding is, therefore, more expensive than wood in the actual cost of the casting, but little or no labour is required in finishing. A peculiarity of this method of moulding is that although an ordinary Portland cement be used with crushed stone, the resulting cast stone is practically of the light tone and colour of the particular stone aggregate used, and shows little trace of the greyness of the cement.

The advantages of cast stone over natural stone are many, but one of the greatest is the uniformity with which it weathers. As you all know, however carefully natural stone is selected, some blocks will weather very much more rapidly than others. To some people this may be a charm, but it is after all an expensive charm. Again, one of the drawbacks to the use of natural stone is the fact that it must be laid on its natural bed if it is to last. Whilst this is done in very many cases where proper supervision is exercised, occasionally the stone is laid haphazard with disastrous results. Whereas in the old days it was wrought by hand, to-day much of the natural stone is machined, with the result with which I am afraid you are only too familiar, that the

surface of the stone is torn and will not retain its original pleasing appearance.

Owing to excessive cost and the great difficulty of obtaining sound, large blocks of sufficient dimensions in the quarries, the size of natural stone is somewhat limited. No such difficulty exists in the manufacture of cast stone, and it can be made up to the maximum size which it is convenient to handle. Cornice blocks and other dressings are frequently made up to three tons in weight. Another trouble the natural stone firms have to contend with is the difficulty of obtaining skilled men at the quarries. It is perhaps a matter of regret that stone masonry is a trade rarely adopted these days. On the other hand, natural stone has stood the all important test of time, and in the majority of cases extremely well. It is unlikely that cast stone, however well it be made, will have a longer life than the very hard stones such as whinstone, basalt and close grained granite. But if it be regarded, as I suggested, as a treatment for natural stone, it will most certainly increase the life of a great majority of the stones used for building.

ALTAR IN THE SHRINE OF THE SACRED HEART, WASHINGTON
Concrete

Had I not touched upon it, no doubt the first question which would be put to me would be, " How does cast stone compare in price with natural stone ? " Owing to the different methods of manufacture and

many other variations it is impossible to draw a very close line of comparison. When one takes into account the fact that the natural stone aggregate is in many cases the waste material from quarries, and that in the majority of cases in precast work innumerable units are cast from the same mould, it can be easily realised that the cost of a cast stone block is only about 60 per cent. of the cost of a cut block in the natural stone. Where, however, only one casting is to be taken, the cost of the mould itself has to be added to the manufacturing cost of the cast stone, which as a rule brings the price up to about that which would be paid for a similar unit in natural stone.

That the life of some natural stones used in buildings is limited is evidenced by the trouble recently discovered in connection with the defective condition of the stonework of the Houses of Parliament, and it was in the repairs of old buildings that cast stone was given a certain prominence. It was ascertained that the quarries from which the original stone was drawn were disused, and in order to effect the repairs to some of our most beautiful buildings, cathedrals, etc., it was found to be entirely satisfactory to break down the stone which had to be replaced and reassemble it as cast stone. By the careful addition of pigment and close attention being given to the texture an exact match was obtained, and when inspected by experts they were unable to detect the reconstructed stone from the material of which the building had originally been built.

Cast stone is of course to-day chiefly used for the facing or embellishment of buildings and bridges, walls, etc., and there is no doubt at all that it will be used very much more widely than is dreamt of at present. A considerable amount of precast ornamental work is now being done, and sculptors have turned to it as a medium of expression. A very interesting piece of concrete rock work has recently been completed at Scarborough in the form of a retaining wall on the Royal Albert Drive and the treatment of a stream in Peasholme Ravine, which includes a coloured concrete rock waterfall and coloured concrete boulders. The possibilities in this direction are endless. In fact there seems to be unbounded scope in all directions for the use of this high class concrete, and it will undoubtedly be interesting to watch the developments of this material under the combined guidance of art, science and craftsmanship.

I now propose to show you a few slides of buildings in which special surface treatments have been used and also some coloured slides with which I hope to demonstrate to you the artistic possibilities of cast stone.

AN ARCHITECTURAL DETAIL OF A DOORWAY IN UPPER THAMES STREET
40 years old. Cast in Portland Stone

The State Schools of Montreal

NOTES ON THE MOST RECENT SCHOOL BUILDINGS FOR ELEMENTARY AND HIGHER EDUCATION

BY MR. RONALD P. JONES [*F.*], L.C.C

[*From a Report written for the information of the Education Committee.*]

The population of Montreal and its outlying suburbs is about 1,000,000, of whom 580,000 are French Roman Catholics, with a separate school system of their own; the rest of the population is classed, for school purposes, as "Protestant," and includes a large Jewish element. Public education is under the control not of an elected Committee, but of a Board of Commissioners, three appointed by the City Council and three by the Provincial Government, each Commissioner serving for three years and being eligible for reappointment. There is no compulsory education, but practically all children between the ages of 5 and 14 attend school, since it is obvious to the parents that an uneducated child has little prospect of getting employment. It is illegal to employ anyone under the age of 14, so that there is no inducement to withdraw a child before that age. Attendance at a school cannot, of course, be enforced, but when a child is once entered, absence may be punished by suspension and, if persisted in, by expulsion from the school.

There are 48 Elementary Schools in the city itself, with 28,000 pupils (of whom 10,000 are Jews) and 890 teachers, of whom no less than 841 are women, owing to the great difficulty of obtaining men teachers. Of the 49 men, 30 are Principals (*i.e.*, head teachers), 12 are teachers of woodwork, and only 7 are ordinary class teachers, but 4 of the Principals also take a class. The school in each case has one Principal, who controls both the boys' and girls' sections; there is no separate infants' department, but the first year is called the "Kindergarten" class, and is mixed, after which most classes are separated, though in smaller schools there may be mixed classes of higher age. Numbers accommodated vary from 1,692 down to 40. Eleven schools have over 1,000 (all with male Principals), and ten have less than 100 (all with female Principals).

The most recent and complete Elementary School building is the "Connaught," opened in May, 1924, in a new and not fully developed district in the west of the city, containing modern working-class houses, and a proportion of rather larger size. At present it has 853 boys and girls on the roll, in 22 classes with 25 teachers; average number in a class 39.2. It is not yet full, and classes may eventually rise to 40 or 45.

The building must be regarded as the ideal school, which is much in advance of the average, and particularly of the small schools 20 to 30 years old. It should be compared, not with the average London school, but with the best and newest of our schools in a "good" neighbourhood where the ground is not yet closely covered with houses. It is a "three-decker" (the usual post-war type), but boys and girls occupy opposite ends of the building, and not separate floors, as with us. The exterior is red brick of a plain but good "Georgian" design with large sash windows and a stone-faced entrance doorway treated with some architectural effect. The whole of the ground floor is given up to entrance, staircases, offices, and covered-in playrooms, which take the place of the open playground during the four months of severe winter cold. Projecting from the back is a large gymnasium, which also serves as an Assembly Hall for the whole school, but is not designed for that purpose, being quite bare and having windows high up on the outer side wall.

The "offices" are large, well-lighted rooms with composition floors, and walls faced with white-glazed brick: W.C.s have automatic flushing seats, marble slab back and side partitions and polished wood doors; lavatory basins are white fireclay with plated hot and cold water taps. An electric drying device has been introduced in this school, in which the boy holds his hands, after washing, over a metal box from the top of which a blast of hot air is driven for 30 seconds, by which time the hands will be dry. This invention saves the cost of towels, but is admitted to be an expensive fitting and will probably not be repeated. The boys' urinals are brown fireclay with separate partitions and automatic flushing. The whole effect of the sanitary accommodation suggests to the English visitor a modern hotel or club, and it is far in advance of even the best secondary school offices in London schools. Hats and coats are not left downstairs, but in metal lockers outside each class-room in the central corridor on the first or second floor. The sliding doors of these lockers are electrically controlled from inside the class-room by the teacher.

The basement contains immense boiler and machinery rooms for the elaborate heating and ventilating systems which the winter climate requires. The heating is by hot water radiators in which the water is circulated at high speed by a pump, instead of by its natural flow. It is claimed that the cost of pumping is more than saved by economy in fuel, because the quicker circulation of the hot water keeps the whole system at a higher temperature. The boilers are oil-fired, and the temperature of the building is regulated automatically by thermostatic control (*i.e.*, electric connection to thermometers which reduces the oil supply when a given temperature has been reached—a device which is in general use in America in private houses and office buildings). Heat is required from the end of September to the middle of May, and the cost of the fuel—coal or oil—is a very heavy item in the annual upkeep.

The ventilation system is driven from the same boilers. During the severe winter period of from three to four months the double sash windows throughout the building are permanently closed, as the outer temperature may be as low as 10 degrees to 20 degrees below zero, so that the interior air has to be raised more than 70 degrees after it enters the building. It is brought in at a point high up on the building, passed through a water-spray filter which clears and moistens it, raised to about 58 degrees, and circulated through the rooms by large square grated openings in the upper part of a side wall. After circula-

tion it is drawn back to the engine room, where it is re-filtered and ozonised by an electric process, and circulated again with an equal proportion of fresh air.

Here also, it is claimed that the cost of the ozonising saves the need for heating the whole volume of air from the low temperature at which it enters. The expense of installing and maintaining this machinery accounts for a great part of the excessive cost per place, as compared with the cost in London. The whole of the boilers and machinery work automatically, and the school-keeper is able to control them in the intervals of doing his ordinary work. At the Connaught the schoolkeeper is an ex-Naval man from Cornwall, and his boiler and engine-rooms were as spotlessly clean, painted, and polished as if they were on a battleship.

The floors of playrooms, offices, and passages are of a cork and cement composition, cleaned by scrubbing. Linoleum is sometimes used in passages to deaden the noise. Stairs are of concrete with a detachable ribbed iron edge to the tread which can be renewed when worn. On each floor is a corridor 12 ft. wide with large windows at each end. The Principal's room is about 25 ft. by 18 ft., with large store-cupboard opening from it, and a private lavatory and W.C. Next to this is the Staff room, 25 ft. by 25 ft. with gas cooking stove, hot and cold water lavatory basin and hot and cold water sink for washing-up. The whole staff lunches here every day.

Class-rooms are normally 35 ft. by 25 ft. and are seated for 40 or 45 pupils, each with a separate desk and seat, screwed to the floor, but no " stepping." There is a passage space at the back of the room as well as at the sides. The only exception to this arrangement is in the Kindergarten room, where the floor is free, and small chairs and tables are used, as with us. Any form of modern " individual teaching " is still quite unknown in Canada, so that no objection is made to fixed seats, and all oral teaching is given to the class as a whole. The floors are of narrow boards, slightly oiled, but cleaned by scrubbing. Our type of " wood-block " floor is not used at all in Montreal. The class-rooms have bright green dados and light distempered walls ; there are very few pictures and the general effect is bare and uninteresting, but this may be partly due, in the two schools which I saw, to the recent date at which they were opened.

There are two specially fitted class-rooms, a " Sloyd " room for boys' carpentry, with a separate bench for each boy, and a cookery room for girls, with seats for class-work, and beautifully fitted benches, sinks, ranges, etc., for practical work.

Electric light is provided in all rooms, but very little evening work takes place in them (except that the gymnasiums are much used by scouts, guides, etc.), and as school closes at 3.45, artificial light is seldom necessary.

The building has at present a flat roof in expectation of the addition of another storey, but no use can be made of such a roof for playground purposes owing to climate and heavy snowfall. Playground space is usually very deficient and much below the London standard; for climatic reasons it does not appear to be considered a matter of great importance, and organised games are mainly played in the gymnasium or the covered playrooms.

The custom, universal in the U.S.A. and Canada, of having no walls, fences, or hedges between the road and the house, or between adjoining houses, makes it quite unnecessary to fence off the playgrounds, either to keep the scholars in or the public out, and the Connaught playground has merely a light wire-netting fence 4 ft. high, fixed to iron rods in the ground, rather to define its boundaries than to prevent public access. In this respect alone the Montreal school avoids an item of considerable cost which is essential in a London school.

The educational system is controlled entirely by the Central office ; there is nothing corresponding to School Managers or to Care Committees, and the Principal feels no responsibility for seeing that his " leavers " get employment—possibly because in a rapidly expanding country employment is comparatively easy to secure.

The cost of the Connaught School was as follows :—

Site	£8,400	
Building	62,400	£4,600
Schoolkeeper's house	1,400	for Equipment.
Total	£72,200	

Assuming a total of 900 places the cost per place is therefore £85 complete (but without professional and legal charges) and £69 for building only.*

The comparative cost of the schoolkeeper's house seems to indicate that the higher cost per place is not due so much to higher wages and cost of building, as to the perfection of the sanitary work and the elaborate machinery required for heating and ventilation.

There are five " High Schools " with 3,000 pupils and 161 teachers, of whom 75 are men ; owing to the higher salaries it is easier to obtain men teachers for Higher than for Elementary education. I visited the " High School of Montreal " and the " Baron Byng "—the Technical High School. This latter may be taken as the normal modern Secondary School building, completed in 1922, in a closely populated but not overcrowded part of the city. The building covers almost the whole of the site and there is only a small tar-paved space which could be used as a playground. As at the Connaught, however, there is a spacious indoor playground, and an excellent gymnasium. The general design and arrangement of the school follow that of the " Connaught," allowing for the greater variety of special rooms for practical and science work which are required for a technical school. These are much on the same scale as those of a London secondary school, with some additional apparatus such as an electric camera for making " blue-prints " from tracings, in the drawing department. The school has 31 classes and 850 pupils on the roll (530 boys and 320 girls), of whom the majority leave at the age of 16, and those who proceed to MacGill University usually do so at 17, and in a few cases at 18.

The cost of the school was as follows :—

Site	£20,000	
Building	104,000	£6,000
	£124,000	for Equipment.

* This compares with a figure of £28 per place (for " main building only ") for the most recent L.C.C. Elementary School —a " three-decker " for 1,000 pupils. But it must be remembered that if the L.C.C. School were built in Montreal, the cost would be far higher—probably over £40.

or £164 per place complete, and £122 per place for the building alone.*

The "High School of Montreal," which is the leading Secondary School, and adjoins the buildings of MacGill University, is the finest and most completely equipped State School building I have ever seen. It cannot fairly be brought into comparison with any L.C.C. Secondary School, owing to the circumstances under which it was removed to the present site. In 1912 the earlier school and its site, in the best part of the city, were bought for a fabulous sum by a company which erected on it the Mount Royal Hotel, the largest hotel in Canada; with the funds thus obtained the Board was able to secure an ideal new site, and to provide a three-storey brick and stone-faced building for higher and junior schools for boys and girls, which was finally completed in 1925 by the addition of a fine Assembly and Speech Hall, to seat 1,400, with a large swimming bath below it. These, with the Entrance Hall and vestibules, occupy the central axis of the site, and the boys' and girls' departments are on either side, each having an immense covered gymnasium with changing rooms and shower-baths, and every variety of class-room for general and special work. On the first floor is a Reading Room and Reference Library, architecturally treated with oak columns and panelling, which recalls an eighteenth century Library of an Oxford College, and is provided with newspapers and magazines as well as the usual books. On the second floor there are large lunch rooms for each department, with a central kitchen, since most of the pupils do not go home during the middle of the day.

The final cost of the school was :—

Site	£65,000	
Building	339,000	£10,000 for Equipment.
	£404,000	

With a roll of about 625 boys and 750 girls (and a total staff of 78) this gives a cost of £300 per place complete.

It is evidently widely known and visited by educationists in America as the "last word" in buildings, and is popularly known as the "Two Million Dollar School" —probably the most expensive State school per place in the British Empire. Owing to the rapid movement of the residential population to the western districts of Montreal, and the spread of the shopping and office district, the numbers attending the school are already declining, and in a few years the problem of making full use of it will become very serious.

PRESERVATION OF ANCIENT BRIDGES.

The Council of the Royal Institute of British Architects have made a grant of £100 to the Society for the Protection of Ancient Buildings to assist the Society in their efforts to obtain the necessary particulars of old bridges which are worthy of preservation.

* The comparative figure here is £75 per place in the L.C.C. Bec School, recently opened, for 500 boys. This again, if built in Montreal, would probably have cost £110 per place, so the difference in the case of Secondary Schools is slight.

Allied Societies

THE NATAL INSTITUTE OF ARCHITECTS.

The Annual General Meeting of the members of the Natal Institute of Architects was held at Durban on 24 March.

The President, Mr. R. N. Jackson, occupied the chair.

After the conclusion of the formal business, Mr. Jackson, the retiring President, gave a *résumé* of the activities of the Institute during his year of office from which the following is an extract:

The Institute was consulted in reference to suggested amendments and improvements to the Local Municipal By-Laws and certain proposals were made which, we trust, were of assistance to the Authorities.

The Federal Council on Architectural Education met in Durban in July of last year, and Mr. W. Paton was elected Chairman for the ensuing year, which was, I think, a compliment to this Province.

Three new Members and three new Associate Members were elected to the Institute during the year. Membership now stands at 27 Members and four Associates.

Colonel Hurst continues to represent the Institute on the Council of the Natal Technical College, and Mr. F. J. Ing was again requested to serve as Chairman of the Building Trades Apprenticeship Committee.

Messrs. Paton and Bartholomew are Members of the Art Advisory Committee appointed by the Municipality, and Mr. Paton represents the Institute on the Municipal Town Planning Committee.

Reviewed in general terms, the year that is past has been a notable one to the Architectural Profession, in that the Architects Registration Bill has been before the House of Assembly and has passed its Second Reading. Its somewhat precarious passage, thus far, has been of more than ordinary interest to the practitioner, since it has, incidentally, made manifest to him the position occupied by the architect in the eyes of a section of the public, one member of the House, whose constituency would appear to be far removed from the world of affairs, going so far as to assert that "any child of eight could draw a plan."

The architect is not anxious to mulct an unwilling public of fees. Any person of small means who is unable to go to an architect for the preparation of plans would still be at liberty to go elsewhere. Nor does the Bill seek to prevent persons who may have been earning a livelihood by preparing plans from continuing to do so. The preparation of plans, while of vital importance, is only a portion of the architect's work. The Bill seeks, however, to set a period to the indiscriminate use of the term architect. No person should be entitled to the use of the term unless qualified to do so by articleship and examination, and any person admitted to the ranks of the profession should be subject to Rules and Regulations framed, particularly, to prevent the abuse of trust monies, which the architect, in the daily exercise of his duties, is called upon to control, and disburse on behalf of his client. Unprofessional conduct, the acceptance of commissions from interested parties, should be as strongly dealt with by us as it is by the Legal profession, but hitherto, without a Bill such as that under review, no machinery has existed to prevent such abuse.

The architect's first duty is to protect the building public, and to ensure that no trade conditions are imposed which, in any way, interfere or restrict their liberty of action. At the same time he has a duty in seeing that the contractor is fairly dealt with.

There have been criticisms of the Bill from some who call themselves "Practical Men." A practical man, as the term is generally understood, is, of necessity, master of one trade only, but it frequently happens that many of the building public seek advice from such without reference to the architect, resulting

more often than not in clumsiness and unsightliness. The practical man's knowledge of architecture is gleaned from glimpses of plans, good, bad and indifferent, and is applied without cognisance of certain laws which govern all design.

Some generations ago, when the United States of America was emerging, as South Africa is to-day, from the pioneer stage of its development, the practical man was, to quote Galsworthy, "at the highest period of his efflorescence," and the architecture of that country was, in consequence, a byword amongst the cultured peoples of the world. To-day, when no nation has a greater pride in the quality of its architecture, a standard has been attained which could scarcely be higher. It was an instance of misplaced emphasis. The "practical man" has ruined whole areas of modern towns: the Town Planning movement was instituted to curtail his depredations and excursions into the realms of design, and to enforce certain laws for the development, along proper lines, of new town areas.

The Exhibition of Colonial and Dominion Architecture held recently in London was important, and the Royal Institute of British Architects deserves the thanks of this country and of the remainder of the Dominions for their continued interest and sponsorship of all that is good for the development of architecture in the Empire. It is matter for congratulation that the architecture of the Union came in for praise, and special reference should be made to the high tributes paid to the P.W.D. of this country by critics in England for the standard of architecture which the Department is producing. South Africa, with the P.W.D. the chief contributors, worthily held her own amongst the rival Dominions.

The President received the scrutineers' report of the votes cast for the members of the New Council as follows: Messrs. Wallace Paton (President), E. M. Powers (Vice-President), F. J. Ing, E. O. Payne, R. N. Jackson, Col. G. T. Hurst and W. S. Payne.

NORTHAMPTONSHIRE ASSOCIATION OF ARCHITECTS.

The Annual General Meeting of the Northamptonshire Association of Architects was held at Northampton on 30 March 1927. The President (Lieut.-Col. J. W. Fisher, F.R.I.B.A.) presided over a well-attended meeting, including Messrs. F. H. Allen, C. Croft, C. Dorman, J. A. Gotch, S. F. Harris, H. Norman, H. F. Traylen, and R. J. Williams.

The Statement of Accounts for the past year, showing a balance in hand of £28 17s. 7d., was approved.

Officers for the year 1927 were elected as follows:—

President.—H. Norman, L.R.I.B.A., Northampton.

Vice-President.—R. J. Williams, F.R.I.B.A., Kettering.

Council.—F. H. Allen, A.R.I.B.A., Northampton; J. W. Fisher, F.R.I.B.A., Wellingborough; J. A. Gotch, F.R.I.B.A., Kettering; S. F. Harris, F.R.I.B.A., Northampton; H. F. Traylen, F.R.I.B.A., Stamford.

Hon. Secretary.—C. Croft, L.R.I.B.A., F.S.I., Northampton

Hon. Auditor.—J. A. Piccaver, Northampton.

It was decided to arrange an exhibition of the Royal Institute of British Architects Students' Prize drawings at either Northampton, Wellingborough or Kettering.

Contributions were voted to the Architects' Benevolent Fund, The Council for the Preservation of Rural England, and the Royal Institute of British Architects Maintenance Scholarship Fund.

The following matters were also discussed: The Architects' Registration Bill; the preparation of Bills of Quantities; the tendency of some public authorities to place the designing of buildings of an architectural character in the hands of their borough engineers; and the pending visit of the Association to the new S. Andrew's Reception Hospital.

THE WREN SOCIETY.

The fourth (1927) Volume of the Society is now in preparation and will be issued to subscribers early in June.

This Volume is entirely devoted to Hampton Court Palace, and Her Majesty, Queen Mary, has graciously consented to accept the special dedication of the book in recollection of the life and work of Queen Mary II (1689–1694).

The drawings of Sir Christopher Wren and Grinling Gibbons, reproduced for the first time in this Volume, are of quite exceptional interest and relate to the miniature Versailles that was intended, even more than to the Palace as actually built.

The drawings fill fifty-one collotype plates and include a remarkable series of authenticated designs for fireplaces by Grinling Gibbons. The text comprises some seventy pages of Accounts, Letters and Official Documents, for the publication of which special leave has been obtained. These papers are of great interest in showing the difficulties and pin-pricks that Wren was constantly beset with, and throw an important light on the architect's relations with his official staff.

As it is expected that the issue will quickly go out of print, early application should be made for this work, which can be obtained in return for the annual subscription to the Society of a guinea.

A few back numbers of the Wren Society's first three volumes, dealing with St. Paul's, can also be obtained, but at present new members are under no obligation to purchase these earlier volumes, although it is hoped that many will avail themselves of the opportunity. By so doing, they will not only enable the Society to produce even better volumes in the future, but they will benefit themselves by securing works of reference which are bound to appreciate in value as time goes on and which cannot be repeated when once the present stock is exhausted.

The duration of the Society's work is limited to twenty years and subscribers can, if they wish, make a single payment of fifteen guineas for the entire issue of the Society's volumes.

The Hon. Secretary of the Wren Society is Mr. H. Duncan Hendry, F.R.I.B.A., of 53 Doughty Street, to whom all correspondence and applications for membership should be addressed.

THE SCIENCE LIBRARY, SCIENCE MUSEUM, SOUTH KENSINGTON.

Privileges Granted to Members of the R.I.B.A.

The Science Library is the National Reference and Lending Library of Science, and forms part of the Science Museum. The Library is open free to the Public, practically without restriction, daily from 10 a.m. to 6 p.m., or until 8 p.m. on Thursdays and Saturdays. Admission is by ticket, to be obtained by application addressed to "The Director, The Science Museum, South Kensington, S.W.7." A single admission may be granted by the Keeper of the Library. Books are lent to officers of Government Departments, and to research workers through the medium of an Institution at which they are working.

The Library contains specialist collections of books from the earliest times on the various branches of science and technology, including, in addition to works printed in Great Britain, the more important scientific books published throughout the

world. The collection of Periodical Literature, which is exceptionally large and complete, includes the Transactions of Societies, and the Bulletins, Monographs, Reports and other publications of Government Departments, Experiment Stations, Observatories, Research Laboratories, Universities and Scientific Institutions of all kinds, as well as independent Journals. Most of the older periodicals are represented by complete files, and the collections of modern periodicals are now being completed as far as possible so as to make the Library a Central Institution for study and research where the scientific periodical literature of the world may be available. The total number of entire volumes in the Library at the present time is 165,000, and these are increasing at the rate of 9,000 volumes a year. The total number of periodicals is about 8,000.

The Director and Secretary has intimated to the Council of the R.I.B.A. that facilities will be afforded to members of the Royal Institute, to whom the Board have authorised the issue of books and periodicals on loan to scientific workers, on condition that no charge for postage or for replacement of lost copies falls on the public funds.

It will not be possible to send books and journals to individual workers direct, but they will be forwarded through the Library of the Royal Institute on guaranteeing the replacement of any book or periodical that may be lost or damaged.

All requisitions for the loan of books by members of the Institute will be signed by the Librarian R.I.B.A.

THE BATH CORPORATION ACT 1925.

"THE BATH CLAUSE."

The Council of the Royal Institute desire that Clause 128 of the Bath Corporation Act, known as the "Bath Clause," shall be published in the JOURNAL for the information of members.

EXTRACT FROM THE BATH CORPORATION ACT 1925.
CLAUSE 128.

Further power to make bye-laws as to new buildings, etc.

128.—(1) (*a*) For the purpose of assisting the Corporation in the exercise of the powers conferred upon them by this section a standing advisory committee of three members (in this section called "the advisory committee") shall be constituted for the city of whom one member shall be a Fellow of the Royal Institute of British Architects to be nominated by the President of the said Institute one member shall be a Fellow of the Surveyors' Institution to be nominated by the President of the said Institution and one member shall be a justice of the peace to be nominated by the council:

Provided that a member of the council shall be disqualified from being a member of the advisory committee.

(*b*) Subject as aforesaid the members of the advisory committee shall be appointed by the council and any vacancy occurring on the advisory committee shall be filled by the council on the nomination of the person or body by whom the member causing the vacancy was nominated. The Corporation shall pay the members of the advisory committee such reasonable fees and expenses as the Corporation think fit.

(*c*) The advisory committee may determine any matter referred to them in such manner as they in their discretion shall think fit and they shall within one month after the receipt of the reference give their decision thereon and any such decision shall have effect as if it were an approval or disapproval (as the case may be) of the Corporation and in the latter case shall contain a statement of the grounds on which the decision is arrived at.

(*d*) Every such decision shall forthwith be reported to the Corporation and upon receipt thereof by the Corporation a copy shall forthwith be sent by the Corporation to the person or persons affected thereby.

(*e*) In the event of a division of opinion among the members of the advisory committee upon reference to them the matter shall be decided by a majority of votes of the members of the committee but save as aforesaid the advisory committee shall act by their whole number.

(*f*) The costs of any reference to the advisory committee shall be paid as the advisory committee may direct. Where such costs or part thereof shall be payable to any person other than the Corporation they shall be recoverable by that person and where such costs or part thereof shall be payable to the Corporation they shall be recoverable by the Corporation and in both cases summarily as a civil debt.

(2) Section 157 (Power to make bye-laws respecting new buildings, etc.) of the Public Health Act 1875 is hereby extended so as to enable the Corporation to make bye-laws providing in such manner as they may think necessary for the deposit by a person intending to construct—

(*a*) a building within the city; or

(*b*) an addition to an existing building within the city (including the reconstruction of an existing addition to any such building); or

(*c*) a chimney exceeding forty-five feet from the ground in height;

of drawings of the elevations and particulars as to the materials of such building or addition or chimney (in this section called collectively "elevations").

(3) Where elevations are required to be submitted to the Corporation by a bye-law made under the said section 157 as extended by this section the Corporation shall within one month after the delivery of the elevations—

(*a*) approve the elevations; or

(*b*) if they shall consider that having regard to the general character of the buildings in the city or of the buildings proposed therein to be erected or of the building upon or to which the addition is to be constructed or reconstructed the building or addition or chimney to which the elevations relate would seriously disfigure the city whether by reason of the height of the building or addition or chimney or its design or the materials proposed to be used in its construction refer the question of the approval of the elevations to the advisory committee for their decision thereon and the reference shall be accompanied by a statement of the grounds on which the proposed building or addition or chimney is considered to be objectionable.

(4) The Corporation shall forthwith send notice in writing to the person by whom the elevations were deposited of their approval thereof or if the building or addition or chimney is considered to be objectionable on any of the grounds mentioned in this section of the reference of the elevations to the advisory committee and the notice shall be accompanied by a statement of the objections to the building or addition or chimney.

(5) The person by whom the elevations were deposited shall be entitled to send to the advisory committee a statement of his answers to the objections of the Corporation and if he does so he shall at the same time send a copy thereof to the town clerk.

(6) Where the elevations of a building or addition or chimney have been disapproved under this section it shall not be lawful to erect the building or addition or chimney until the elevations thereof have been approved by the Corporation and any person who acts in contravention of this section shall be liable to a penalty not exceeding five pounds and to a daily penalty not exceeding two pounds.

(7) The provisions of paragraph (*b*) of subsection (2) of this section shall not apply to a wooden hoarding which is used solely for the purpose of bill posting.

PROFESSOR CHARLES GOURLAY MEMORIAL SCHEME.

The following letter has been received from the Honorary Secretary to the Memorial Scheme :—

37 St. Vincent Crescent,
Glasgow, C.3.
17 March 1927.

DEAR SIR,—A meeting of the Committee was held in the Royal Technical College, Glasgow, on 16th inst., Mr. A. Cullen, A.R.I.B.A., presiding.

The Secretary reported that the sum of Eighty-Seven Pounds had been subscribed to date and that further contributions practically assured the sum of one hundred pounds being realised.

Dr. Stockdale, Director of the College, expressed the opinion that the time had now arrived when the Committee might definitely move in the matter of the memorial. A time limit to the raising of the funds should be set as soon as the definite scheme for the memorial could be settled.

Meantime it was unanimously agreed that Messrs. A. Cullen and W. J. Smith be invited to co-operate to prepare a design for the memorial headstone and medallion together with the estimated cost for submission to the next meeting of Committee, to be held in the College on the 31st inst. By that time it is hoped many more subscriptions will be received.

The Committee desire all past students and friends of the late Professor Gourlay to have the full opportunity and privilege of subscribing.

J. MACAULAY,
Hon. Secretary.

The Secretary,
The Royal Institute of British Architects.

R.I.B.A. MAINTENANCE SCHOLARSHIPS IN ARCHITECTURE.

The Maintenance Scholarships Committee are glad to announce that they have received a contribution of ten guineas from the Leeds and West Yorkshire Architectural Society towards the Maintenance Scholarships Fund.

NOTES FROM THE MINUTES OF THE COUNCIL, 11 *April* 1927.

THE ROYAL GOLD MEDAL.

The Council were informed that the King had approved the award of the Royal Gold Medal to Sir Herbert Baker, A.R.A.

THE REGISTRATION BILL.

The result of the debate on the Second Reading of the Registration Bill in the House of Commons was formally reported to the Council, who passed a very hearty vote of thanks to Sir Clement Kinloch-Cooke and the Chairman and Members of the Registration Committee.

THE PRESERVATION OF OLD BRIDGES.

On the recommendation of the Art Standing Committee a grant of £100 was made to the S.P.A.B. Special Bridges Fund.

PAPER ON "THE MOORISH ARCHITECTURE OF NORTH AFRICA."

It was decided to invite Mr. Arthur J. Davis to read a paper on "The Moorish Architecture of North Africa" this session.

THE BATH CORPORATION ACT, 1925.

It was decided to print Clause 128 of the Bath Corporation Act, known as the "Bath Clause," in the JOURNAL for the information of members.

ANNUAL SERVICE FOR ART IN WESTMINSTER ABBEY.

It was decided to give the cordial support of the Institute to the arrangements made by the Royal Academy for the holding of an Annual Service for Art at Westminster Abbey.

VISIT OF DANISH ARCHITECTS.

Permission for the use of the galleries was granted to the Architectural Association for the dance to be held on 27 May in honour of the Danish Architects visiting England. It was also decided to invite the Danish Architects to meet the President and Council at the Exhibition of Modern British Architecture.

EXAMINATION RESULTS.

The Board of Architectural Education reported the following results :

The Special Examination, Singapore.

Examined.	Passed.	Relegated.
1	1	0

The Intermediate and Final Examinations, Cape Town.
The Intermediate Examination.

Examined.	Passed.	Relegated.
5	3	2

The Final Examination.

Examined.	Passed.	Relegated.
2	2	0

LIST OF EXAMINATIONS RECOGNISED FOR THE PROBATIONERSHIP.

It was decided to make history and geography alternative subjects in the list of subjects required to be covered by the certificates recognised for the probationership.

THE SCHOOL OF ARCHITECTURE, LEICESTER COLLEGE OF ARTS AND CRAFTS.

Recognition for exemption from the R.I.B.A. Intermediate Examination under the usual conditions was granted to this school for its three years' full-time day course.

THE VICTORY SCHOLARSHIP, 1926–1927 COMPETITION.

It was decided to grant a Certificate of Honourable Mention to the author of the drawings submitted under the motto "Sea."

PRESENTATION OF PRIZES AT THE R.I.B.A.

It was decided to institute certificates to be presented to the following prize-winners at the annual presentation of prizes :—

R.I.B.A. (Henry Jarvis) Student (British School at Rome).
R.I.B.A. (Archibald Dawnay) Scholars.
R.I.B.A. (Anderson and Webb) Scholar at Cambridge University School of Architecture.
R.I.B.A. (Henry Jarvis) Student at the Architectural Association.

R.I.B.A. (Howard Colls) Travelling Student at the Architectural Association.

R.I.B.A. Donaldson Medallist at the Bartlett School of Architecture, University of London.

THE ARTHUR CATES PRIZE.

It was decided to approve the proposal of the Charity Commissioners that the amended scheme for the Arthur Cates Prize should provide for the offer of an annual prize for the promotion of the study of architecture more especially in relation to the application of geometry to vaulting, etc. (*i.e.*, the object especially indicated by the founder), with a proviso that if in any year (either owing to absence of competitors or the fact that no work of sufficient merit is submitted) no prize is awarded, then the following year the prize shall be offered in connection with some other architectural subject—*e.g.*, town planning.

The scheme would further provide that the income of the Charity unexpended in any year should be added to the capital endowment, so that the value of the annual prize might ultimately be augmented.

THE R.I.B.A. (HENRY SAXON SNELL) PRIZE.

It was decided to amalgamate the R.I.B.A. (Henry Saxon Snell) Prize with that offered by the Architectural Association, and to institute a Henry Saxon Snell Scholarship, to be offered every third year, and administered by a Joint Committee of the R.I.B.A. and the Architectural Association, the income of the two funds being amalgamated for the purpose of providing the Scholarship Fund.

The Council of the Architectural Association have agreed to this proposal.

THE CONSTITUTION OF THE BOARD OF ARCHITECTURAL EDUCATION.

The Officers of the Board of Archirectutal Education for the ensuing Session were appointed as follows :—

Mr. Henry M. Fletcher, Chairman.
Mr. L. Sylvester Sullivan, Chairman of Examinations Committee
Mr. Howard Robertson, Chairman of Schools Committee
Mr. Robert Atkinson, Chairman of Prizes and Scholarships Committee
} Vice-Chairmen.
Mr. W. H. Ansell, Hon. Secretary.

It was decided that the two Past-Chairmen serving immediately prior to the present Chairman should be ex-officio members of the Board.

THE VICTORY SCHOLARSHIP MEDAL.

It was decided to institute a medal to be awarded with the Victory Scholarship in commemoration of Members of the Society of Architects who fell in the War.

A selection of esquisse designs for the medal has been obtained from the recognised Schools of Architecture, and that prepared by Mr. E. B. O'Rorke, of the Architectural Association School of Architecture, has been selected as most suitable.

The generous offer of a former Member of the Society of Architects to defray the cost of making the dies for the medal has been accepted.

COMMITTEE ON STANDARD METHODS OF TESTING SMALL CLEAR SPECIMENS OF TIMBER.

Mr. E. H. Evans [*F.*] was appointed as the R.I.B.A. representative on a new committee set up by the British Engineering Standards Association to undertake the standardisation of methods of testing small clear specimens of timber.

LONDON BUILDING ACTS COMMITTEE.

Mr. Louis D. Blanc [*L.*] was appointed as an additional member of the London Building Acts Committee.

FORMS FOR THE APPOINTMENT OF ARBITRATORS.

On the recommendation of the Practice Standing Committee it was decided to adopt, for future use, two forms for the appointment of arbitrators, one form to be used when the dispute is a general one and no agreement has been made for submission to arbitration, and the other form when the dispute arises under a Building contract wherein there is a submission to arbitration.

R.I.B.A. SCALE OF CHARGES.

It was decided, on the recommendation of the Practice Standing Committee, that in future a loose slip should be inserted in each copy of the Scale of Charges sent out by the Institute intimating that members are advised to take the earliest opportunity of bringing the scale to the notice of their clients.

STUDENTSHIP.

The following were elected Students of the R.I.B.A.:—

Billiards, Harold (Leeds College of Art).
Buchanan, James Wardrop (Architectural Association).
Egan, John Edward (passed Intermediate Examination).
Fridjhon, Clement Raymond (Passed Intermediate Examination).
Hunt, Henry Arthur (Northern Polytechnic).
Lipp, Alexander (Glasgow School of Architecture).
Lloyd, William Raymond (Architectural Association).
McNeil, Patrick (Glasgow School of Architecture).
Murray, James Mackie (Edinburgh College of Art).
Roxburgh, Charles Wallace (Passed Intermediate Examination).
Solomon, David Bowen (University of Liverpool).
Westendarp, Rudolf Theodore (Architectural Association).

RESIGNATION.

The following resignation was accepted with regret :—

A. Ernest Lacey [*L.*].

APPLICATIONS FOR ELECTION AS SUBSCRIBERS.

Two applications were approved.

APPLICATIONS FOR ELECTION AS LICENTIATES UNDER SECTION III (*f*) OF THE SUPPLEMENTARY CHARTER OF 1925.

Three applications were approved.

LECTURES ON ARCHITECTURE FOR WORKERS IN THE BUILDING TRADES.

The Board of Architectural Education have recently held two series of Lectures on Architecture for Workers in the Building Trades.

The subjects and lecturers were as follows :—

"The Job," by Mr. L. Sylvester Sullivan.

"Materials and Craftsmanship," by Professor H. Worthington.

"Good and Bad Buildings," by Mr. Howard Robertson.

"The Wealth of England," by Mr. W. G. Newton.

"The Palace of Westminster," by Mr. T. Wilson (Superintendent of Works, H.M. Office of Works).

"Surface Treatment of Concrete and Cast Stone," by Mr. H. A. Holt, A.I.Struct.E.

"Liverpool Cathedral," by Professor C. H. Reilly.

"General Materials," by Mr. H. Jarman (Superintendent of Works, H.M. Office of Works).

The lectures were increasingly well attended by representatives of most of the building trades, and the Council, on the recommendation of the Board of Architectural Education, wish to draw the attention of all practising architects to the following points which were brought out during the discussions which took place :—

1. That more interest would be taken by the craftsmen in the buildings upon which they were engaged if models of the proposed buildings were placed upon the works for their inspection while the buildings were in progress, and that complete plans and drawings might be available in order that the men could see how the work they were doing fitted into the whole structure.

2. That craftsmen should be given more liberty to use their discretion in the execution of their particular crafts.

3. That the architect and craftsman should get into closer personal touch with each other.

4. That architects might take building apprentices over their works while in progress and at completion.

THE SITUATION IN CHINA.

The following cablegram has been received by the R.I.B.A. :—

Shanghai, 24 *March* 1927

To Royal Institute of British Architects, London—

"The undersigned members request you impress authorities and public presence British Force saved the International Settlement from pillage and British and other nationals from wholesale murder by armed Communists and leaderless Chinese troops adjoining district in state of anarchy thousands Chinese sheltering in Settlement any negotiations with existing authorities regarding surrender foreign settlements suicidal."—Johnson, Stewardson, Bothwell, Ripley, Wilson, Walker; and Associates and Licentiates.

THE ARCHITECTS' BENEVOLENT SOCIETY. DISABLEMENT.

The Architects' Benevolent Society is able to offer architects a cheap and effective insurance policy against all accident and all sickness for an annual premium of £4 10s., which also covers medical and surgical fees. The benefits are :—

Death by accident	£500.
Disablement by sickness or accident for 24 weeks ..	£4 a week.
Medical and surgical fees ..	Up to one-sixth of the amount payable in disablement benefits.

Please address all enquiries to :—The Secretary, Architects' Benevolent Society, 9, Conduit Street, W.

ATTENDANCES AT COUNCIL AND STANDING COMMITTEE MEETINGS, 1926–1927.

THE COUNCIL (9 Meetings).

President : E. Guy Dawber, 7. *Vice-Presidents :* H. P. Burke Downing, 9 ; Sir Banister Fletcher, 7 ; Arthur Keen, 8 ; Percy S. Worthington (Manchester), 5. *Honorary Secretary :* E. Stanley Hall, 9.

Members of Council : Professor S. D. Adshead, 3 ; Henry V. Ashley, 7 ; Major Harry Barnes, 9 ; Herbert T. Buckland (Birmingham), 7 ; Sir John J. Burnet, 0 ; Walter Cave, 5 ; Major H. C. Corlette, 9 ; Henry M. Fletcher, 9 ; H. S. Goodhart-Rendel, 4 ; Francis Jones (Manchester), 7 ; H. V. Lanchester, 6 ; Sir Edwin L. Lutyens, 1 ; Thomas R. Milburn (Sunderland), 5 ; E. C. P. Monson, 8 ; T. Taliesin Rees (Liverpool), 4 ; Professor C. H. Reilly (Liverpool), 7 ; H. D. Searles-Wood, 8 ; Francis T. Verity, 6.

Associate Members of Council : H. Chalton Bradshaw, 6 ; Leonard H. Bucknell, 5 ; Professor Lionel B. Budden (Liverpool), 5 ; Lieut.-Colonel H. P. Cart de Lafontaine, 8 ; G. Leonard Elkington, 9 ; Major T. C. Howitt (Nottingham), 6 ; P. W. Hubbard, 5 ; Manning D. Robertson (Dublin), 2 ; Michael Theodore Waterhouse, 7.

Licentiate Members of Council : E. H. Heazell (Nottingham), 4 ; Lieut.-Colonel P. A. Hopkins, 8 ; Captain A. Seymour Reeves, 6 ; J. C. S. Soutar, 9 ; Percy J. Waldram, 8 ; Colonel N. H. Waller (Gloucester), 5.

Past Presidents : Sir Reginald Blomfield, 0 ; J. Alfred Gotch (Kettering), 3.

Representatives of Allied Societies in the United Kingdom or the Irish Free State :—J. M. Dossor (York and East Yorkshire), 8 ; H. S. Fairhurst (Manchester), 7 ; E. Bertram Kirby (Liverpool), 6 ; Lieut.-Colonel George Reavell (Northern), 7 ; T. Butler Wilson (Leeds), 7.—Edward T. Boardman (Norfolk), 3 ; A. T. Butler (Birmingham), 3 ; J. W. Fisher (Northamptonshire), 8. G. C. Lawrence (Wessex), 9 ; Percy Morris (Devon and Cornwall), 0. John Keppie (Glasgow), 3 ; T. F. Maclennan (Edinburgh), 3 ; G. P. K. Young (Aberdeen), 3. Charles F. Ward (South Wales), 8. E. R. Kennedy, (Ulster) 1.

Representative of Allied Societies in the British Dominions Overseas : Percy E. Nobbs (Canada), 0.

Representative of the Architectural Association (London) : J. Alan Slater, 8.

Representative of the Association of Architects, Surveyors and Technical Assistants : Charles McLachlan, 7.

Chairman of the Board of Architectural Education : Maurice E. Webb, 6.

**Chairmen of the Four Standing Committees :* Walter Tapper (Art), 7 ; A. H. Moberly (Literature), 8 ; J. Douglas Scott (Practice), 8 ; J. Ernest Franck (Science), 7.

The Art Standing Committee (9 meetings) : Professor S. D. Adshead, 2 ; Sir Herbert Baker,* 0 ; Sir John J. Burnet, 1 ; Heaton Comyn,* 5 ; H. P. Burke Downing, *Vice-Chairman*, 7 ; H. S. Goodhart-Rendel, 3 ; P. D. Hepworth, 2 ; Gilbert H. Jenkins,* 7 ; Arthur Keen, 4 ; F. Winton Newman, *Joint Hon. Secretary*, 9 ; Halsey Ricardo, 6 ; Louis de Soissons, 6 ; Walter Tapper, *Chairman*, 8 ; Francis T. Verity,* 5 ; H. Chalton Bradshaw, 3 ; Leonard H. Bucknell, *Joint Hon. Secretary*, 6 ; R. A. Duncan,* 4 ; Cyril A. Farey, 4 ; Hon. H. A. Pakington, 6 ; W. Harding Thompson, 6 ; Michael Theodore Waterhouse, 3 ; R. F. G. Aylwin, 4 ; A. S. Soutar, 5 ; Francis R. Taylor, 8.

The Literature Standing Committee (9 meetings) : Louis Ambler, *Vice-Chairman*, 8 ; Martin S. Briggs, *Joint Hon. Secretary*, 4 ; Walter Cave,* 2 ; Major H. C. Corlette, 4 ; J. Murray Easton,* 4 ; F. C. Eden,* 3 ; Henry M. Fletcher, 4 ; D. Theodore Fyfe (Cambridge), 5 ; S. D. Kitson,* 5 ; A. H.

*Marked thus were appointed after the first meeting of the Council. Possible attendances, 8.

Moberly, *Chairman*, 7; Basil Oliver, 7; C. S. Spooner, 6; Arthur Stratton, 3; Sir A. Brumwell Thomas, 0; Professor Lionel B. Budden (Liverpool), 0; C. Cowles-Voysey, 3; A. Trystan Edwards,* 1; Professor F. S. Granger (Nottingham), 2; H. C. Hughes (Cambridge), 4; C. E. Sayer (deceased), 1; Grahame B. Tubbs, *Joint Hon. Secretary*, 8; W. Hodgson Burnet (resigned), 1; Captain W. T. Creswell, 8; Arthur E. Henderson, 7.

The Practice Standing Committee (9 meetings): Henry V. Ashley, 5; W. H. Atkin-Berry, 6; Frederick Chatterton, *Joint Hon. Secretary*, 7; G. Hastwell Grayson (Liverpool) *Vice-Chairman*, 7; P. W. Hubbard, 4; Delissa Joseph (deceased), 4; E. Bertram Kirby,* (Liverpool), 1; G. H. Lovegrove, 7; E. C. P., Monson, 6; D. Barclay Niven, 7; E. J. Partridge, 6; W. Gillbee Scott, 8; J. C. S. Soutar, 9; Sydney J. Tatchell,* 6; Harry Teather (Cardiff),* 8; W. E. Watson,* *Joint Hon. Secretary*, 7; Horace Cubitt, 4; G. Leonard Elkington, 6; H. V. Milnes, Emerson, 7; W. H. Hamlyn,* 7; J. Douglas Scott, *Chairman*, 9; Charles Woodward, 9; J. W. Denington, 6; Captain A. Seymour Reeves, 6.

The Science Standing Committee (9 meetings): W. E. Vernon Crompton, 4; J. E. Dixon-Spain, 1; E. H. Evans,* 5; J. Ernest Franck,* *Chairman*, 8; Hooper, Francis, *Vice Chairman*, 9; Alan E. Munby, 7; H. D. Searles-Wood, 3; Charles F. Skipper (Cambridge), *Joint Hon. Secretary*, 7; R. Elsey Smith, 6; Digby L. Solomon, 3; A. J. Taylor (Bath), 2; Dr. Raymond Unwin, 2; Thomas Wallis,* 5; Hope Bagenal, 1; P. W. Barnett,* 4; W. T. Benslyn, 5; Edwin Gunn, 4; R. G. Lovell (Whitstable), 3; Charles McLachlan,* 3; A. E. Mayhew, 7; Harvey R. Sayer, 8; Lieut.-Colonel P. A. Hopkins, 7; G. N. Kent, *Joint Hon. Secretary*, 9; Percy J. Waldram, 6.

THE ARCHITECTS' REGISTRATION BILL.

The Select Committee of the House of Commons which is to consider the Bill, will consist of:

Sir Clement Kinloch-Cooke, Bt., K.B.E., Conservative Member for Cardiff East.

Lieut.-Colonel T. C. Moore, C.B.E., Conservative Member for the Ayr Burghs.

Dr. T. Watts, Conservative Member for the Withington Division of Manchester.

Capt. D. Euan Wallace, M.C., Conservative Member for Hornsey.

Sir Alfred Hopkinson, K.C., Conservative Member for the English Universities.

Major R. Tasker, Conservative Member for Islington East.

Sir Frederick Rice, Conservative Member for Harwich.

Mr. J. P. Gardner, Labour Member for Hammersmith North.

Mr. F. W. Lindley, Labour Member for Rotherham.

Sir Murdoch Macdonald, K.C.M.G., C.B., Liberal Member for Inverness.

Mr. W. Hirst, Co-operative Member for Bradford South.

With reference to the note in the last issue (p. 421) that a full Report of the debate in the House of Commons on the Registration Bill would be issued with the current JOURNAL, it has been found necessary to defer its publication until the next issue.

*Marked thus were appointed after the first meeting of the Committee.

THE PRESIDENT AND THE ROYAL ACADEMY.

The congratulations of members of the R.I.B.A. will be heartily accorded to Mr. Dawber on his recent election as Associate of the Royal Academy.

THE ANNUAL ELECTIONS.

NEW NOMINATIONS TO COUNCIL AND STANDING COMMITTEES.

The following nominations have been made by members in accordance with Bye-law 36:—

As Members of Council.—Dick: Robert Burns [*F.*], nominated by W. Milburn, J. T. Cackett, S. W. Milburn, W. Milburn, jun., *Fellows*; H. L. Hicks, F. H. Newrick, T. Ruddiman Wood, G. E. Charlewood, *Associates*. Slater: John Alan [*F.*], nominated by Howard Robertson, J. Murray Easton, C. H. James, E. Stanley Hall, Robert Atkinson, A. H. Moberly, *Fellows*; Hubert Clist, *Associate*.

As Associate-Members of Council.—Batty: John [*A.*], nominated by Robert G. Forbes, F. R. Jelley, E. Cavanagh, Chas. McLachlan, Harvey R. Sayer, *Associates*; L. A. F. Ireland, J. W. Denington, *Licentiates*. Cachmaille-Day: Nugent Francis [*A.*], nominated by Robert G. Forbes, F. R. Jelley, E. Cavanagh, Chas. McLachlan, Harvey R. Sayer, *Associates*; L. A. F. Ireland, J. W. Denington, *Licentiates*. Chester: Harold William [*A.*], nominated by Robert G. Forbes, F. R. Jelley, Chas. McLachlan, E. Cavanagh, Harvey R. Sayer, *Associates*; L. A. F. Ireland, J. W. Denington, *Licentiates*.

As Associate-Member of the Art Committee.—Towndrow: Frederic Edward [*A.*], nominated by A. E. Richardson, John H. Markham, *Fellows*; Michael Waterhouse, Clifford E. Mee, C. Terry Pledge, Charles Shirley Carter, P. W. Mulready, *Associates*; Arthur B. Hayward, C. J. Corblet, *Licentiates*.

As Members of the Practice Committee.—Kenyon: Arthur William [*F.*], nominated by H. F. Murrell, C. H. James, H. A. Gold, Stanley G. Livock, *Fellows*; E. W. Mountford, H. J. Venning, Gordon H. N. Inman, *Associates*. Nicholas: Charles [*F.*], nominated by Arthur Keen, R. S. Kerr, Henry J. Chetwood, Owen C. Little, J. E. Dixon-Spain, Henry Tanner, *Fellows*; H. J. Venning, *Associate*.

Notices

THE FOURTEENTH GENERAL MEETING.

The Fourteenth General Meeting (Ordinary) of the Session 1926-27 will be held on Monday, 16 May 1927, at 8 p.m., for the following purposes:—

To read the Minutes of the Annual General Meeting held on 2 May 1927; formally to admit members attending for the first time since their election or transfer.

To read the following Paper, "Foreign Hospitals," by Mr. Lionel G. Pearson [*F.*].

EXTRA-ORDINARY GENERAL MEETING.

An Extra-Ordinary General Meeting will be held on Monday, 23 May 1927, at 8 p.m., when Mr. Arthur J. Davis [*F.*], will read a Paper on "The Moorish Architecture of Northern Africa."

BRITISH ARCHITECTS' CONFERENCE, LONDON. 20-25 JUNE 1927.

The Annual Conference of British Architects, postponed in 1926 on account of the General Strike, will take place in London from 20 to 25 June (inclusive).

All Members of the R.I.B.A., the Architectural Association, and the Allied Societies in Great Britain, Ireland and overseas are invited to take part in the Conference.

It is hoped that many ladies will be present, as guests of members, at all the events contained in the programme.

Members are particularly requested to make a note of the date (20 to 25 June) and to keep themselves free from other engagements.

A complete programme with full particulars will be issued in the near future to all the members of the bodies mentioned above.

Non-London members are urgently recommended to make arrangements for their accommodation in London during the Conference week at the earliest possible time. In the height of the London season the hotels are liable to be very full.

The Railway Companies in Great Britain have agreed to issue tickets, available from 18 to 27 June at the ordinary single fare and one-third for the double journey, to members and their friends who attend the Conference. Members who desire to take advantage of this special reduced fare concession must present at the booking office a signed voucher to be obtained from the Secretary R.I.B.A.

Hospitality.—The Executive Committee desire to remind London members of this welcome opportunity of offering private hospitality to their friends from the provinces who will be coming to London for the Conference week.

So much generous hospitality has been extended in the past to London members attending the Conferences in the provincial centres that this opportunity of returning it will no doubt be warmly welcomed, and members will lose no time in writing to their friends in the provinces on the subject.

REGISTRATION OF ARCHITECTS.

VOLUNTARY REGISTER OF PERSONS WHO ARE NOT MEMBERS OF THE R.I.B.A. OR OF ANY ALLIED SOCIETY.

The Registration Committee of the R.I.B.A., with the approval of the Council, has opened a voluntary register of persons who, *not* being members of the R.I.B.A. or of any of its Allied Societies, desire to have their registration qualifications recorded in view of the intention of the R.I.B.A. to promote a Bill for the Registration of Architects.

The object of the voluntary register is to provide and maintain, with the registers of the R.I.B.A. and of its Allied Societies, a complete record of persons in *bona fide* practice as architects, either as principals or assistants, in England, Scotland, Wales and Northern Ireland.

While there is no charge for record in the register and such record does not involve any obligation on the part of the persons registered, or the R.I.B.A., or the Registration Committee, the existence of such a register in the event of a Registration Act coming into force in this country will greatly expedite and facilitate the machinery of Registration.

The Register will be subject to revision and amendment from time to time, and the Registration Committee reserves the right to discontinue the system of voluntary registration at any time, and in the event of a Registration Act coming into force the voluntary register will be discontinued.

Particulars for record in the register should be entered on the forms provided for the purpose. These can be obtained on application to the Secretary of the R.I.B.A. Registration Committee, at 28 Bedford Square, London, W.C.1.

Competitions

NEW GRAMMAR SCHOOL, BRADFORD.

The Governors of the Bradford Grammar School invite architects to submit designs in competition for the New Grammar School proposed to be erected on the Clockhouse site in Keighley Road, Bradford, Yorkshire. Assessor, Mr. Arnold Mitchell [*F.*]. Premiums, £300, £200 and £100. Designs to be sent in not later than 30 June 1927. Particulars and plan of site may be obtained, by depositing £1 1s., from W. Brear, Secretary, Grammar School, Bradford, Yorks.

CITY OF BIRMINGHAM CIVIC CENTRE.

The Corporation of the City of Birmingham invite those qualified or practising as architects or town planners to submit designs in competition for laying out an area for the purposes of a civic centre. Assessor, Mr. H. V. Lanchester [*F.*]. First premium £1,000. Last day for questions 31 January 1927. Designs to be sent in not later than 30 June 1927. Conditions, on payment of £1 1s., may be obtained on application to the City Engineer and Surveyor, Council House, Birmingham.

SHAKESPEARE NATIONAL MEMORIAL THEATRE, STRATFORD-UPON-AVON.

The Governors of the above invite architects to submit designs for the Shakespeare National Memorial Theatre, Stratford-upon-Avon.

The competition will be open to architects of the British Isles and America. It will be in two sections—a preliminary competition for sketch designs only, from which six designs will be selected by the assessors; each of the selected competitors will be paid £100 premium towards the cost of preparing a further more detailed design, which will form the second half of the competition.

The selected architect will be paid in accordance with the Schedule of Charges sanctioned by the Royal Institute of British Architects.

Conditions of competition, with site plan, etc., can be obtained from the Secretary, Shakespeare Memorial Theatre, Stratford-on-Avon, on payment of a deposit of £1 1s. (which will be refunded should the conditions be returned within one month).

Preliminary designs must be delivered to Stratford-on-Avon not later than 15 June 1927.

The Governors of the Shakespeare National Memorial Theatre have appointed the following architects to act as Assessors for the Competition for the new Shakespeare National Memorial Theatre, Stratford-on-Avon :—Mr. E. Guy Dawber, President R.I.B.A., and Mr. Cass Gilbert, President of the National Academy of Design of America (who will both act in an honorary capacity), and Mr. Robert Atkinson, F.R.I.B.A.

LEXDEN COUNCIL SCHOOL COMPETITION

Members of the Royal Institute of British Architects must not take part in the above Competition because the conditions are not in accordance with the published regulations of the Royal Institute for architectural competitions.

WINTHROP HALL AND OTHER BUILDINGS FOR THE UNIVERSITY OF WESTERN AUSTRALIA.

Premiums £300, £200, and £100. Total cost, £150,000. Jury of adjudicators, Leslie Wilkinson [*F.*] (Professor of Architecture, University of Sydney), President (1926), of the Royal Institute of Architects of Western Australia (Mr. A. R. L. Wright, L.R.I.B.A.), and a member of the Senate, University of Western Australia. Last day for questions, 31 March 1927. Designs to be delivered to the University, at or before noon on 24 August 1927. Conditions may be obtained gratis from the Agent-General for Western Australia, Savoy House, 115–116, Strand, W.C.2.

Members' Column

COMMENCEMENT OF PRACTICE.

Mr. Stephen Mann (*A.*) has commenced practice at No. 1, The Crescent, Carlisle, and would be glad to receive trade catalogues.

PARTNERSHIPS WANTED.

A.R.I.B.A., with 12 years' experience, desires Partnership in an established Practice; capital available.—Box No. 2527, c/o. The Secretary, R.I.B.A., 9 Conduit Street, London, W.1.

F.R.I.B.A. (42), with wide London experience and having small Connection in large suburban town near London, wishes to join a firm of Architects of good standing, with a view to Partnership. Can place small capital if required.—Apply Box No. 2517, c/o The Secretary, R.I.B.A., 9 Conduit Street, London, W.1.

OFFICE ACCOMMODATION REQUIRED.

ARCHITECT wishes to rent a room in an architect's office with telephone, electric light, fitted drawing table and clerical assistance when required. St. James's or Westminster district preferred. State rent.—Apply Box 2637, c/o The Secretary, R.I.B.A., 9 Conduit Street, London, W.1.

OFFICES TO LET.

MEMBER has suite of offices to let, with or without telephone, and services of clerk; Holborn district; well lit; 2 rooms communicating and one single. Or would let single room separately.—Apply Box 1297, c/o The Secretary, R.I.B.A., 9 Conduit Street, London, W.1.

ARCHITECT (F.R.I.B.A.) wishes to let large room adjoining Lincoln's Inn; rent £70 per annum, inclusive of light and heating, and fitted drawing table.—Apply Box 5331, c/o The Secretary, R.I.B.A., 9 Conduit Street, London, W.1.

A MEMBER has to let a self-contained suite of three exceptionally well-lit offices situated in the best part of the West End. Rent £175 per annum.—Apply Box 3047, c/o The Secretary, R.I.B.A., 9 Conduit Street, London, W.1.

ARCHITECT (R.I.B.A.) wishes to let a large light room, 17 ft. 6 in. by 15 ft., with fitted plan cupboard and book-shelves, on the first floor in an office in Gray's Inn. Rent £85 per annum. The above includes share of waiting-room, rates, taxes, electric lighting and cleaning. Telephone with extension is installed and share of clerk for typing and trading can be arranged.—Reply Box 8272, c/o The Secretary, R.I.B.A., 9 Conduit Street, London, W.1.

OFFICE CLOSED.

MISS JOYCE E. TOWNSEND'S office at 9 Gray's Inn Square, Gray's Inn, W.C.1, will be closed for the coming five months, owing to her absence in America. Postal communications will be forwarded.

Minutes XVI

SESSION 1926-27.

At the Ninety-third Annual General Meeting (being the Thirteenth General Meeting of the Session 1926-27), held on Monday, 2 May 1927, at 8 p.m.

Mr. Arthur Keen, Vice-President, in the chair.

The attendance book was signed by 17 Fellows (including 8 Members of the Council), 7 Associates (including 1 Member of the Council), and 2 Licentiates.

The Minutes of the Ordinary General Meeting held on 11 April, having been published in the JOURNAL, were taken as read, confirmed and signed as correct.

The Chairman having referred to the recent election of the President—Mr. E. Guy Dawber—as an Associate of the Royal Academy, it was *Resolved* by acclamation that hearty congratulations be conveyed to the President on the honour that had been conferred upon him.

The Hon. Secretary announced the decease of:

Edwin Wollaston Fritchley, elected Fellow 1906.
Frank Alleyn Coles, elected Associate 1892.
Charles William Hunt, elected Associate 1882.
John Carlton Williams, elected Associate 1923.
Frederick Ernest Crutchley, elected Associate 1920.
William Vince Cook, elected Licentiate 1912.
Frederick Cannon, elected Licentiate 1912.

And it was *Resolved* that the regrets of the Institute for their loss be entered on the Minutes, and that a message of sympathy and condolence be conveyed to their relatives.

The Chairman formally presented the report of the Council and Standing Committees for the official year 1926-27, and stated that the Chairmen or other representatives of all the Committees whose reports were appended to the Council's report had been asked to attend the meeting so as to be in a position to answer any questions that might be asked in connection with their reports.

The Chairman having moved the adoption of the Report, and invited discussion upon it, the Hon. Secretary seconded the motion, and a discussion ensued.

On the motion of Mr. Maurice E. Webb [*F.*], it was *Resolved*, by acclamation, that

The congratulations of the meeting be accorded to Mr. William Woodward on reaching the great age he has arrived at and on still being able to go through and criticise the enormous mass of information contained in the Annual Report.

The motion having been put from the Chair, it was *Resolved*

That the Report of the Council and Standing Committees for the official year 1926-27 be approved and adopted, subject to the omission of the paragraph "Lectures for Practising Architects" in the report of the Science Standing Committee.

The Chairman stated that the list of attendances at the Council and the Standing Committee meetings had been laid on the table and would be printed in the next issue of the JOURNAL and also sent out to members with the voting papers.

Upon the motion of the Chairman a vote of thanks was passed by acclamation to Mr. A. Harold Goslett [*F.*] and Mr. F. J. Toop [*A.*], for their services as Hon. Auditors for the past year.

Mr. Henry A. Saul [*F.*] and Mr. J. Maclaren Ross [*A.*] were nominated as Hon. Auditors for the ensuing year of office.

The proceedings closed at 9.15 p.m.

R.I.B.A JOURNAL.

Dates of Publication.—1927: 21st May; 11th, 25th June: 16th July; 13th August; 17th September; 15th October.